

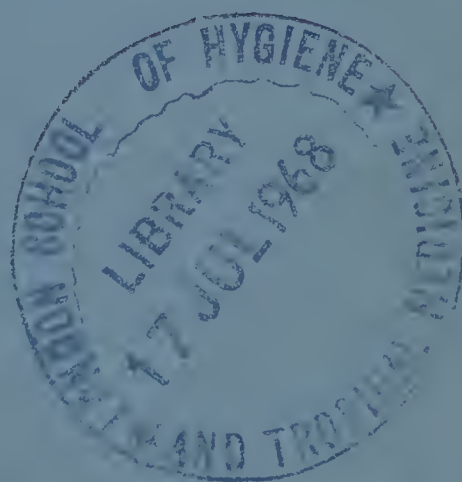
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COLONY AND PROTECTORATE OF KENYA

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**MEDICAL DEPARTMENT  
ANNUAL REPORT  
1955**



1956

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## CONTENTS

PAGE

Introduction .. .. .	1
Staff .. .. .	2
Medical Boards .. .. .	4
Finance .. .. .	5
Training .. .. .	6
Buildings .. .. .	7
Hospitals .. .. .	7
Special Hospitals .. .. .	8
Mathari Mental Hospital .. .. .	9
Health Centres and Special Clinics .. .. .	10
Village Development .. .. .	12
United Nations' Special Agencies .. .. .	13
Welfare .. .. .	14
Health Education .. .. .	14
Prisons, Prison Camps and Detention Camps .. .. .	15
Communicable Diseases .. .. .	16
Public Health and Environmental Sanitation .. .. .	17
Medical Stores .. .. .	21
Sterile Preparation Unit .. .. .	22
Boards and Statutory Bodies .. .. .	22
Division of Insect Borne Diseases .. .. .	24
Laboratory Services .. .. .	25
Visitors .. .. .	26
Articles Published .. .. .	27
<i>Statistical Appendices—</i>	
Out-patients Treated .. .. .	29
In-patients Treated .. .. .	33
In-and Out-patients Treated—Accidents .. .. .	42



THE MINISTER FOR LOCAL GOVERNMENT,  
HEALTH AND HOUSING, NAIROBI.

SIR,

I have the honour to submit for the information of His Excellency the Governor, and for transmission to the Right Honourable the Secretary of State for the Colonies, the Medical Report on the Health and Sanitary Conditions of the Colony and Protectorate of Kenya for the year 1955, together with the Returns, etc. appended thereto.

I have the honour to be,

Sir,

Your obedient servant,

T. FARNWORTH ANDERSON,  
*Director of Medical Services.*







## MEDICAL DEPARTMENT ANNUAL REPORT, 1955

### INTRODUCTION

During the year the Emergency passed its peak and more settled conditions generally obtained in the country. This has afforded an opportunity to concentrate on measures for the reconstruction and consolidation of the medical and health services following the disorganisation and disruption which the Emergency caused.

As explained in a previous report, the Medical Department in 1954 was faced with a very great increase of work in connection with the maintenance of medical and health services in prison and works camps. At the same time disturbed conditions in the Central and Rift Valley Provinces led to increasing commitments in the affected areas, including the treatment of gunshot wounds and casualties on both sides. All this came at a time when recruitment of staff had become extremely difficult and at one time it looked as if the medical services might be unable to meet all its responsibilities.

Fortunately, there has been an improvement throughout the year, conditions in prison camps have become more settled as Emergency medical services became better organised, casualties have diminished and, towards the end of the year, medical services were approaching more nearly to their normal routine. The situation was further improved as in the latter half of the year, recruiting of Medical Officers improved, and it was possible to concentrate more staff in those stations where the work was heaviest.

In one respect however, the work of the Department became even more onerous during the year. This was in the Central Province, that part of the country inhabited by the Kikuyu and allied tribes who were involved in the Emergency. During the year it became the official policy of Government to remove the population from the isolated homesteads in which they formerly lived and to concentrate them into villages. This was started in 1954 and was completed in 1955. At the same time a policy of much closer administration was enforced and the number of European District Officers in these districts was very greatly increased.

As a result of this it is now the general rule for seriously ill people living in the villages in the reserve to be taken to hospital for treatment, whereas formerly by no means all the seriously ill reached hospital, owing to lack of transport facilities or lack of inclination for hospital treatment. As a result the hospital population has enormously increased with the result that existing hospitals have become almost overwhelmed and as a matter of urgency additional Medical Officers and Nursing Sisters had to be posted to the hospitals where pressure on beds was greatest.

At the same time, the Medical Officer in charge of a district, who is also the Medical Officer of Health, was faced with the very important problem of supervising, often with inadequate subordinate staff, the siting, lay-out and building of innumerable villages which for operational reasons had to be built in a very short time. Fortunately it was possible to impress upon the Administration the essential importance of this major public health measure with the result that recently built villages, though far from perfect from a hygienic point of view, might have been very much worse, having regard to the Emergency conditions under which they were constructed.

In the 1954 report I have described how the Medical Department was faced with a major outbreak of typhoid, not only throughout the country, but what was much more serious, in the large prison and detention camps which has sprung up all over the country. Fortunately, this epidemic was brought under control fairly rapidly and by the end of the year had subsided to a considerable extent.

An added anxiety during the year was the occurrence of pellagra in fairly large numbers in the detention camps. The cause of this is somewhat obscure as, theoretically, the diet should have been adequate for the prevention of deficiency diseases. The outbreak was rapidly brought under control by the administration of a yeast product to all detainees. The cause of this epidemic is the subject of investigation by the Applied Nutrition Unit of the London School of Hygiene and Tropical Medicine.



In the first part of the year, cases of poliomyelitis were still being notified. This reflected a continuation of the outbreak which had started during the previous year and which was especially prevalent amongst the European population, particularly amongst comparatively new arrivals. Great strides were made during the year in the treatment of respiratory paralysis caused by this disease, as a result of which a number of lives were undoubtedly saved.

A matter of major importance affecting all members of the Medical Department was the implementation of the recommendations of the Lidbury Report on Civil Service salaries. As a result of this salaries have been considerably improved and should stimulate recruiting of overseas personnel.

At the same time, racial distinctions were abolished and it is now possible for a member of any race to be appointed to fill any post in the service, depending only on qualifications, merit and ability.

### STAFF

1955 saw several changes in the ranks of the Senior Medical Administrative Officers. The Deputy Director was transferred on promotion as Director of Medical Services, Uganda. Two Senior Medical Officers left the Colony on retirement. The vacancies thus caused were filled by promotion within the department of two Medical Officers to Senior Medical Officer, one Assistant Director of Medical Services to Deputy Director of Medical Services, and one Senior Medical Officer to Assistant Director of Medical Services.

Among the Specialist posts that of Specialist Psychiatrist remained vacant for most of the year, but was ultimately filled in the latter months by a recruit from Canada. The 31st December saw the Department say good-bye to its Senior Specialist who had been with the Kenya Government Medical Service for thirty-five years. The vacant post of Specialist Ophthalmologist was filled in November in an acting capacity by one of the Medical Officers who had returned from study leave, having been successful in acquiring the Diploma in Ophthalmology.

The establishment of Medical Officers remained at 79 plus six Emergency posts. At the end of the year there were seven vacancies and 14 non-permanent Medical Officers were held against establishment, of whom eight were on contract terms. This is an indirect reflection on the recruitment position. Whether conditions of service are not attractive enough for the calibre of Medical Officer required or whether the attraction to emigrate is not sufficiently great in the medical profession is a moot point. In recent years the fact that there has been an Emergency in Kenya was thought to have played its part in discouraging recruitment. With the general all-round improvement in Emergency conditions there has been an increase in response, but it must be pointed out that in conversation with the newly joined recruits this improvement has been due more to better publicity in the U.K. Very few of the newly appointed Medical Officers have evinced particular interest in how the Emergency was going to affect them and were much more interested in conditions of service, the medical work involved, and the prospects of advancement in the service.

With King George VI Hospital continuing to provide pre-registration training for internship it might be interesting to review the results.

YEAR	NUMBER OF INTERNS		NUMBER SUBSEQUENTLY JOINED SERVICE	
	European	Asians	European	Asians
1953 ..	4	—	3	—
1954 ..	4	—	1	—
1955 ..	3	3	—	3



The question of providing post-graduate necessary pre-registration training is becoming a problem. King George VI Hospital, Nairobi, is, at present, the only one of our hospitals recognised by the G.M.C. At the moment there are six recognised vacancies per annum. Next year it is hoped that this will be raised to 12 which is estimated to be the limit possible for satisfactory training. With innumerable Kenya-born children now qualifying in medicine in U.K., Hindustan, and Pakistan the applications for internship at King George VI Hospital are liable to be far in excess of the existing vacancies. It is, therefore, thought advisable that such young doctors should do their utmost, not only to qualify in medicine, but to become registrable prior to returning to the Colony.

Turning to the Nursing Services it has become more and more apparent that under existing circumstances there is a need for more qualified nursing staff. This is particularly evident in the field of public health. With the development of the Health Centre concept and increasing domiciliary care the need for health visitors is also increasing. In the Emergency areas, with the establishment of villages and the rehabilitation of released detainees, the need for health and welfare supervision has become of paramount importance. If the Medical Department is to play its full share in this programme then it is essential to have adequate personnel in the field.

The recruitment of qualified nurses has continued to be disappointing during the past year. In the field of welfare and domiciliary care this has been off-set to some extent by the magnificent aid given by the British Red Cross Service and St. John Ambulance workers who have been posted to the Colony. However, with the increase in demand for more and better facilities for all kinds of medical attention, the strain put on our existing staff has become apparent. This was very obvious during the relatively small outbreak of poliomyelitis in November and December. Turning for additional help it was obvious that the nursing resources were at a minimum. All the more credit is due to the existing staff in having completed not only adequately but so well. Naturally, those conditions led to additional demands on the staff with increasing working hours and less off-duty, all of which was accepted in a true vocational spirit. The fact that there were 33 temporary Nursing Sisters on the employed list at the end of the year reflects the position.

During the year the Matron-in-Chief was transferred to Singapore and the vacancy was filled by the promotion of a senior Matron from Tanganyika. Two Matrons were transferred on promotion, one to Tanganyika Territory, and the other to the West Coast. These vacancies were filled by promotions within the Department. Five new Nursing Sisters and two new Sisters with Health Visitors certificates were appointed during the year.

There were five resignations of Nursing Sisters, four on account of marriage.

In the sphere of local training the number of candidates entering for examinations conducted by the Nurses' and Midwives' Council of Kenya were as follows:

	Passed	Failed	Total
Kenya Registered Nurses (Final) .. ..	2	—	2
Kenya Registered Nurses (Preliminary) .. ..	7	—	7
Assistant Nurses, Grade I (Final) .. ..	16	—	16
Assistant Nurses, Grade I (Preliminary) .. ..	57	11	68
Assistant Nurses, Grade II .. ..	85	58	143
Assistant Midwives .. ..	51	31	82

The European Health Inspectorate with three vacancies on its existing establishment was pushed to the extreme to compete with the work demanded of it. In the Emergency areas the establishment of new villages, works camps, prison camps, and other development led to a vast increase in the work required of the available staff. In addition to this everywhere throughout the Colony there is general development. Townships are expanding and there is a marked tendency to convert from temporary and semi-permanent to permanent buildings. Also the African peasant is steadily becoming educated in health matters and is showing a desire to plan his farm and



homestead in accordance with hygienic principles. All are turning to the district health offices for advice and counsel. This automatically leads to increased work for the health office staffs and, in the absence of additional suitable recruits, puts an increased burden on the present personnel.

In the spheres of physiotherapy and radiography the applications for employment have exceeded the vacancies permissible. It has to be borne in mind, however, that these are relatively small and, as yet, undeveloped departments. Two vacancies occurred for Pharmacists during the year, one due to retirement, and extreme difficulty has been experienced in filling these appointments. Again, it would appear to be evident that the conditions of service do not attract recruits from overseas countries to whom we have to turn.

At the end of the year all 33 posts for Assistant Surgeons were filled. However, five of these were filled by persons with temporary employment permits and it is envisaged that when they go it may be difficult to fill the vacancies.

In the categories of Medical Officer (East Africa) there was one vacancy which will be filled automatically, in time, by the promotion of one of the Assistant Medical Officers. In this latter sphere there were two vacancies which will be automatically filled by new graduates from Makerere Medical School early in the New Year.

### MEDICAL BOARDS

The causes for boarding members of the expatriate population of Government servants out of the service are of interest. The accompanying tables shows the actual breakdown.

	EUROPEAN		ASIANS	
	Male	Female	Male	Female
1.—ACCIDENTS—				
(a) Non-operational* .. .. .	18	4	3	1
(b) Operational* .. .. .	5	1	—	—
(c) G.S.W. .. .. .	4	—	—	—
II.—NEUROSIS .. .. .	17	2	7	—
III.—PSYCHOSOMATIC DISEASES .. .. .	10	2	3	—
(a) Duodenal Ulcer .. .. .	6	2	—	—
(b) Coronary Thrombosis .. .. .	4	—	—	—
IV.—CENTRAL NERVOUS SYSTEM APART FROM II AND III—				
(a) Non-Infectious .. .. .	9	—	1	—
(b) Infectious .. .. .	5	—	—	—
V.—CARDIO-VASCULAR (exclusive of Coronary Thrombosis) .. .. .	9	—	3	—
VI.—RESPIRATORY .. .. .	4	2	3	—
VII.—RENAL .. .. .	5	1	—	—
VIII.—ALIMENTARY (excluding Duodenal Ulcer) .. .. .	11	2	—	—
IX.—OTHER DISEASES—				
(a) Malignancy .. .. .	4	1	1	—
(b) Dermatological .. .. .	2	—	1	—
(c) Diabetes .. .. .	1	—	1	—

\*Refers to anti-Mau Mau operations.

## FINANCE

## Expenditure

In view of the change in the financial year from the calendar year to the period 1st July to 30th June, the form of this section of the report relates to the period 1st July, 1954 to 30th June, 1955.

The system of decentralised accounting may be considered successful and has not only enabled the accounts to be brought up to date, but has resulted in a greater sense of responsibility being shown by Medical Officers, both as regards their accounts and the control of expenditure. In many cases, however, Medical Officers have been handicapped by lack of efficient and trained accounting staff. It is hoped that additional administrative staff will shortly be appointed and a system of internal audits will be introduced in the near future with the object of assisting Medical Officers to fulfil their responsibilities and eventually lead to greater efficiency and a more effective control of expenditure.

The total expenditure of the Medical Department, excluding Development Expenditure for the period 1st July, 1954 to 30th June, 1955, amounted to £1,524,250 as compared with £682,313 for the half year 1954. The increases in expenditure were due to payment of arrears of salary due under the Lidbury Report, increased costs and a general expansion of medical services.

The sum spent on capital projects in the Development Plan amounted to approximately £230,820. Further details of this expenditure are given in a subsequent paragraph. The following is a summary of expenditure under the main sub-heads for the financial period 1954/55:

<i>January to June, 1954</i>										1954/55
										£
Personal Emoluments	..	..	..	..	..	..	..	..	..	909,556
Travelling Expenses	..	..	..	..	..	..	..	..	..	58,444
Medical, Surgical Stores and Equipment	..	..	..	..	..	..	..	..	..	286,274
Maintenance and Upkeep of Medical Establishments	..	..	..	..	..	..	..	..	..	132,349
Grants	..	..	..	..	..	..	..	..	..	25,450
Miscellaneous	..	..	..	..	..	..	..	..	..	82,032
Non-Recurrent	..	..	..	..	..	..	..	..	..	30,145
										<u>£1,524,250</u>

## Revenue

Revenue collected during this period amounted to £103,693 and revenue uncollected as at 30th June, 1955 amounted to £22,901, of which £17,286 related to Hospital Fees.

The following is a summary of revenue collected:—

The following is a summary of revenue collected:—	£
Hospital Fees .. .. .	26,138
Miscellaneous Fees .. .. .	2,507
Infectious Diseases Hospital Fees .. .. .	8,194
Fees from Government Analyst .. .. .	1,499
X-Ray Fees .. .. .	3,918
Massage and Physiotherapy .. .. .	189
Medical Fees, Workmen's Compensation .. .. .	2,146
Medical Laboratory .. .. .	8,830
Rations .. .. .	392
Quinine and Mepacrine .. .. .	290
Medical Stores and Equipment issued to African District Councils ..	29,274
Medical Stores for Mission Hospitals .. .. .	4,737
Artificial Limbs .. .. .	1,115
Railway Rebate .. .. .	2,470
Recoveries from Medical Learners for Boarding Fees .. .. .	6,086
Health Education Materials .. .. .	140
Sundry .. .. .	5,768
	<hr/> £103,693



## TRAINING

The Medical Training School changed its name to Medical Training Centre in anticipation of the new organisation, which will include a number of separate training schools in the one institution.

Considerable building expansion is contemplated in the near future as owing to financial aid which has been promised by the International Co-operation Administration of the United States of America, amounting to some £152,000, it will be possible to group on the one site all the training facilities which are carried out by the Department at higher level.

In addition to the training of medical and hospital assistants and nurses, it is intended that the Hygiene School, the School of Laboratory Technology and the School of Radiology will be moving to the King George VI Hospital site.

### Recruiting

During the year two recruiting tours were carried out by the Medical Officer i/c Training and the Senior Sister Tutor and a total of 233 interviews were given. For the first time the departmental practical examination for the second year dresser trainees was carried out during these tours.

### Qualifications

During 1955 the following number of students qualified:

Hospital Assistants (Male)	..	..	..	..	..	..	13
Laboratory Assistants	..	..	..	..	..	..	5
Assistant Radiographers	..	..	..	..	..	..	1
Grade II Dressers (Male)	..	..	..	..	..	..	1
Grade II Dressers (Female)	..	..	..	..	..	..	5
*Kenya Registered Nurses	..	..	..	..	..	..	2

\*These were the first to qualify in Kenya as Registered Nurses. They were two nuns from the Consolata Mission.

The total number of students at the Medical Training School at the end of 1955 was 254, composed as follows:

Hospital Assistants Attending Promotion Course	..	..	..	..	..	6
Hospital Assistant Trainees (Male)	..	..	..	..	..	144
Hospital Assistant Trainees (Female)	..	..	..	..	..	11
Compounder Trainees	..	..	..	..	..	14
Laboratory Assistant Trainees	..	..	..	..	..	12
Kenya Registered Nurse Trainees	..	..	..	..	..	14
Grade II Dresser Trainees (Male)	..	..	..	..	..	27
Grade II Dresser Trainees (Female)	..	..	..	..	..	26

### School of Hygiene

The School of Hygiene continued to occupy inadequate and rather dilapidated temporary accommodation at Jeanes School. Two grades are trained at this school, namely Assistant Health Inspectors and Health Assistants. Assistant Health Inspectors are resident throughout the year, but the Health Assistants spend only two terms of their two years training here, the remainder of their training being carried out under the supervision of Health Inspectors in the field.

During 1955 there were 26 Assistant Health Inspectors under instruction and a total of 60 Health Assistants.

The educational standard of entry for Assistant Health Inspector has now been raised to the School Certificate level. For the first time the examination was held by an interterritorial Board of Examiners, so that candidates from all the East African territories received the same examination. Formerly, examinations have been held separately in each territory by separate examiners, which inevitably led to the suspicion that in some territories examiners were more lenient than others.



For the first time, Health Assistants were trained for County Councils, formerly training was only carried out on behalf of the African District Councils.

### Assistant Nurses Training

As before the policy was continued of training Assistant Nurses at all Provincial and District Hospitals at which European Nursing Sisters were posted. The total number of Assistant Nurses, Grade II in training was 277. Training suffered as a result of pressure of work in all hospitals, but particularly in those of the Central Province, which made it difficult for Nursing Sisters to spend as much time on training as was necessary. This was reflected in the examination results, the number of passes was relatively low. It has now been decided that all Assistant Nurses, Grade II shall be required to undergo a departmental examination and only those who pass will be permitted to sit for the Nurses' and Midwives' Council examination.

### BUILDINGS

Much progress was made during the year and in addition to completion of works already started in the previous year many new projects were initiated. Among these the construction of African staff housing in pumice cement as a pilot scheme for the Ministerial Housing Project for Nairobi should be noted.

A list of work undertaken is appended. Against each item is shown the estimated expenditure for each work.

	£
King George VI Hospital, African Staff Housing in pumice cement ..	20,000
Group Hospital, Mombasa—Admission Block .. .. .	16,000
Fort Hall Kitchen Laundry Unit .. .. .	675
Nyeri Kitchen .. .. .	1,100
Maralal Hospital .. .. .	7,790
Naivasha Hospital .. .. .	9,622
Msambweni Drainage .. .. .	400
Kisii Theatre .. .. .	1,050
Kilifi Medical Officer (E.A.) House .. .. .	315
Mathari Mental Hospital:—	
European Ward Block .. .. .	10,025
African Housing .. .. .	2,950
European House .. .. .	2,856

### HOSPITALS

The Medical Department now maintains only 57 European and 192 Asian beds, as such, out of a total of 6,035 general and special beds. The work first started by the European community to build and operate their own hospitals has now been followed by the Asian community. Two large Asian hospitals in Nairobi are in the planning stage and will soon be constructed. The Medical Department beds are open to all races and offer a standard of amenity which can be considered to be of a basic nature.

In 1955 there was a drop in in-patient admissions compared with the peak figures for 1954 and 1953. The reason for this is that 1955 has been a reasonably healthy year and there has been no great incidence of special diseases, as was experienced in the previous two years, notably typhoid and allied enteric diseases. It is quite possible that the Department's policy to encourage the building and maintenance of Health Centres is now being reflected in the falling hospital figures, which still represent in many cases a gross overrunning of the available accommodation in our hospitals. Contrary to the general experience, the Central Province hospitals were busier than ever and so was Wesu Hospital in the Teita District, where poor rains led to severe food shortages and consequent increase in illness in general. In the Central Province certain hospitals were so overrun that it was surprising that any work of value could be done there. The admissions for Embu Hospital were 500 more than in the previous year and the average number of patients being treated at that hospital was 77, in accommodation officially sufficient for 26 beds. The out-patient attendances at this hospital amounted to 30,000 in the year.



New beds have been opened in 1955, chiefly to cater for the large number of patients seeking medical aid for tuberculosis. The distribution of these beds was: Kisumu, 52; Nyeri, 54; Nakuru, 40; Kisii, 24; Kabarnet, 26 and Thomson's Falls, 14.

On reading through the Annual Reports from Medical Officers it appears that, although hospitals suffer no difficulties from shortage of medical stores, they experience difficulties through lack of staff, more especially of the Hospital Assistant, Compounder and Laboratory Assistant category. As many of the hospitals were overloaded there were complaints too, of little money for maintenance and for meeting bills in connection with electricity and water.

Whereas, much comment was made last year on the number of admissions for enteric diseases, interest now is centred on the tuberculosis position. Tuberculosis is quite clearly becoming the most important disease that has to be treated, partly in respect of the numbers, but chiefly in respect of the long period of hospitalisation that has hitherto been considered necessary for the proper management of the disease. At present, there are insufficient capital funds to provide enough bed space to treat large numbers of patients for long periods in hospital, neither is there enough capital to install the X-Ray facilities that Medical Officers demand.

Much attention had to be given to the problem during the year. The policy now is to take the greatest advantage of the potentialities of the newer drugs for the treatment of tuberculosis and to design a system whereby patients can be treated at home, under domiciliary supervision. This policy has been pursued in certain districts with considerable relief to the pressure on beds and profit through experience in the management of a domiciliary supervisory scheme.

Although 1955 has been a rather featureless year, it cannot be said that Medical Officers have not been as busy as ever, nor are their lives entirely without interest.

An example of the unusual is illustrated by this quotation culled from a Monthly Report from the Medical Officer, Kisii:

"There has recently been a case here about a 'Kisii Skull Operation.' It was one of those cases, where a woman, complaining of headache, had been subjected by the local witch doctor to a primitive trephining operation, by stages, until the meninges were exposed; she then died of meningitis. The witch doctor was duly apprehended and arraigned before the magistrate, and Dr. M . . . gave evidence as to the cause of death. The witch doctor pleaded not guilty as charged and cross-examined the doctor on one or two points of his evidence, much to the consternation of those present. He, the witch doctor, argued that the operation was justified as the woman had incurable headache. He wanted to know whether Dr. M . . . had referred any cases to him and was rather indignant when he found out that he had not. He also wanted to know what happened to Dr. M . . . 's cases when they died. Was he too accused before the Court; and if not, why not? The case for the prosecution fell down over a variation in the evidence. The police alleged that the head wound had been caused some two months before death, whereas the medical evidence was that the incision had been made some time within the week prior to death."

## SPECIAL HOSPITALS

### Infectious Diseases Hospitals

Complete Infectious Diseases Hospitals exist only at Mombasa and Nairobi. Other Medical Department Hospitals usually have an isolation wing in some corner of the hospital grounds for the reception of infectious diseases. Happily they have not been over-full this year.

Building continued at the New Infectious Diseases Hospital in Nairobi and completion was in sight within a month or so, at the end of the year. The old Infectious Diseases Hospital at Mombasa suffered severe storm damage and had to be evacuated in part. In any case this hospital was to be replaced by incorporating it with the Chest Hospital at Port Reitz and the result of the disaster caused by the storm was that 30 new beds had to be opened in haste at the Port Reitz Chest Hospital to receive cases of tuberculosis who were previously treated at the old derelict hospital.



### **Port Reitz Chest Hospital**

Port Reitz Chest Hospital now has as many as 175 patients under treatment at one time and is showing rapid growth, especially with the engrafting of extra beds there for the reception of infectious diseases, other than tuberculosis.

This hospital has become an extremely strong unit and is doing very good work in combating the high prevalence of tuberculosis in coastal districts. Treatment at this hospital is of the highest standard and the Tuberculosis Officer has made a most useful arrangement with the surrounding District Hospitals. The arrangement has resulted in a greater turnover in cases, as the District Hospitals will admit a patient suffering from tuberculosis without delay and put him on to immediate treatment with the new drugs. After some weeks he is transferred to the Port Reitz Chest Hospital, where his case is carefully assessed. He is thereafter returned to his district for further attention and supervision. By this means, the Port Reitz Chest Hospital has become the centre of a very useful scheme from which further experience is being gained in the management of tuberculosis.

### **Poliomyelitis Unit**

As a result of the poliomyelitis outbreak which occurred in 1954, when many severe cases of the bulbar type of the disease were seen, it was decided to set up an expert Poliomyelitis Unit. This is stationed at the Infectious Diseases Hospital in Nairobi and the unit consists of a well-trained team of consultants and nurses. Special apparatus has been bought and there is probably no form of the disease which cannot now be treated by the unit. Much credit must be given to the team and to the Air Ambulance services, for bringing patients from outlying districts to treatment in Nairobi by the Poliomyelitis Unit.

### **Itesio Leprosarium**

Itesio Leprosarium is slowly taking shape and the small ward unit attached to this institution was built during the year. Itesio will serve the dual function of a leprosy hospital and a research centre. The High Commission Research Centre is now almost complete and work has started there on an attempt to unravel the bacteriology and epidemiology of leprosy. The bacteriological investigations are specially difficult as it is not yet certain that anyone has succeeded in growing the leprosy bacillus on an artificial culture medium. Should the Research Centre succeed in this task, it will be possible to announce an important advance in our understanding of this disease.

### **Blood Transfusion Service**

Amongst the special hospital services that must be mentioned are the blood transfusion services which are in being at many of the main hospitals. In Nairobi the service is large enough to merit a special organisation, which is based on the blood donor panel maintained by the British Red Cross Society. The Medical Research Laboratory is concerned in the preparation of the apparatus, grouping the blood and arranging for its storage and distribution. If this service grows to any greater extent it will be necessary to organise it as a separate unit, maintaining its own staff and supported by its own finances. At District and Provincial Hospitals much useful work is being done by the Surgeons, Medical Officers and Nurses in maintaining a transfusion service and blood bank, through their own special efforts. Here again, is time willingly given to this service over and above that normally required from our staff to perform their ordinary duties. Much propaganda work has yet to be done to encourage members of all races to join the voluntary donor panels and the enthusiasm of our officers goes far to achieve this end.

## **MATHARI MENTAL HOSPITAL**

### **Treatment and Accommodation**

The total number of patients treated during 1955 again showed a slight rise, 1,257 in 1955 as compared with 1,207 in 1954. With the completion of the new European female ward certain internal reorganisation was possible which released certain extra accommodation for African male patients. In spite of this, considerable overcrowding, especially in the African male wing, continued. There was an average of



65 African male patients in excess of the authorised bed-space permitted. When it is considered that on the criminal side there were 58 males and eight females committed for murder admitted as lunatics, one rape, one arson and 25 male patients for Mau Mau offences, it will be seen that a Broadmoor type institution is required and would relieve the overcrowding considerably. This is a point which continues to agitate the Visiting Committee.

Four hundred and twenty-nine patients were able to be discharged after treatment. This coincides with the figure for 1954.

There were 67 deaths in the hospital as compared with 55 for 1954.

On the whole the physical health of the patients has been satisfactory, although many were suffering from undernourishment and actual malnutrition on admission. Pellagra was again noticeable amongst the new admissions.

Eleven cases of bacillary dysentery occurred as against ten in 1954.

Nine cases of pulmonary tuberculosis were notified as against ten in 1954.

Although numerous patients attempted to abscond none were successful. On 11 occasions the staff were subjected to assault by patients, and these resulted mostly in fingers getting bitten when controlling the patients. Restraint was not employed during the year and only one African female patient was secluded and then only for one hour. The general conduct of the patients, considering the various types to be cared for, has been very good.

#### *Electro Convulsion Treatment*

Three hundred patients received treatment during the year 1955.

#### *Insulin*

Insulin treatment was discontinued.

#### *Neuro-Syphilis*

Fifteen Neuro Syphilitics were admitted during 1955 (eight in 1954) of these nine died and two were discharged. In all cases patients received large doses of penicillin and the results are rather disappointing. No pre-frontal leucotomies were performed in 1955.

### **Patients' Occupation, Recreation and Welfare**

An average of 58 per cent males and 54 per cent females were occupied either on occupational therapy or the essential work in the hospital. Various communities and people have contributed gifts to the hospital which have enabled us to give extra amenities to the patients especially at Christmas.

A local lady entertained the patients once a week with a cinema show. The Department of Information staged a variety show for all races on 30th December.

Football continues to be the chief recreation for both staff and patients. Two wireless sets were donated by the Indian community and these were placed, one in the African male ward and another in the female ward.

#### **Occupational Therapy**

This department continues to expand. Increasing numbers of African patients have been occupied during the past year and the results have been very satisfactory. Increasing outside interest has been shown in the work of the department, and various articles made by the patients have been exhibited at the Arts and Crafts Society Exhibition in the Memorial Hall, Nairobi. Many articles were also sold in the Kenya section of the Trade Industries Fair at Mogadishu.

### **HEALTH CENTRES AND SPECIAL CLINICS**

Every District and Provincial Hospital in the country can now be classed as a main health centre where the senior staff undertake the duties of supervising an ever-growing network of rural health centres in their district.



The main health centre extensions are usually built on to the out-patient departments where there is a room for clinics and demonstration purposes and offices for the field staff whose duty it is to tour round and supervise the work of the rural health centres.

Much U.N.I.C.E.F. equipment arrived during the year and its acceptance is acknowledged with grateful thanks. Fifteen of the main health centres have now been supplied with a long wheel base Land-Rover in order that the Medical Officer of Health, Health Inspector or Health Visitor can regularly tour their districts.

U.N.I.C.E.F. has also supplied motor cycles and equipment for the rural health centres and 20 of these are now enjoying this material assistance.

At the beginning of 1955 there were 19 rural health centres situated at:

Githunguri.	— Hamisi.	— Namalungu.	— Nambare.
— Butere.	— Sirisia.	— Nabakholo.	Siya.
Kwale.	Migori.	— Kimilili.	Gatundu.
Jibana.	Bondo.	— Vihiga.	Kangema.
Kapiyet.	— Iguhu.	Masii.	

In 1955 six more rural health centres were built. They were at Kilibwoni in the Nandi district, Sosirot in the Kericho district, Ruiru and Karen in the Nairobi County Council area, together with Mwatate in Wesu and Kiamatugu in the Embu district. As will be seen from the above lists the development of rural health centres in the Central Province Emergency areas has been considerably hampered by the unsettled conditions there.

Rural health centres are run by the local health authorities and are staffed by a medical assistant, a health assistant, a health visitor, a midwife and a dresser.

Some rural health centres, especially those in the Nyanza Province, have a few beds which are used for the accommodation of the not so seriously ill, or for patients awaiting the ambulance to take them to the main District Hospital. When rural health centres were originally conceived it was thought they would relieve the load from the District Hospitals by bringing the benefits of modern medicine closer to the patients and their homes. As a result of five years' experience the original hopes have been fully justified and Medical Officers are now sending in glowing reports of the usefulness of rural health centres.

The people and local authorities themselves realise the benefits they gain and are very anxious to increase the number of health centres in their districts.

The difficulty, besides lack of finance, is that it is almost impossible immediately to train a sufficient number of medical aids to man every centre. Nevertheless, building operations are proceeding in the confidence that the new Medical Training Centre will soon be able to catch up with the demands being made upon it. In expectation of this the South Nyanza African District Council has prepared a £112,000 scheme for the building of rural health centres in their district.

The management and maintenance of the main health centre is still a Central Government responsibility, but the local health authorities have undertaken the maintenance of rural health centres. Special clinics are conducted from the rural health centres, more especially the ante-natal and child welfare activities. There are, however, certain other special needs in particular areas for clinics which the Central Government still maintains. The reason for this division of responsibility is that the organisation of these clinics is exploratory in nature and it is natural that the Central Government should devise a proper system of management of special clinics before requiring the local health authority to maintain them in future.

Leprosy clinics have been organised specially in coastal regions for the ascertainment of the extent of the disease and for extra-institutional treatment of cases found. Similar clinics have been inaugurated in the Central Nyanza District. The reason for starting clinics for leprosy in coastal regions is that it is difficult to send cases to the Leprosarium at Itesio, right at the other end of the Colony. No Leprosarium has been built at the coast, firstly, because of the lack of funds and secondly, because of the high atmospheric humidity in coastal areas which is detrimental factor in the treatment of leprosy.



A tuberculosis clinic has been started in Mombasa under the joint control of the Tuberculosis Officer and the Medical Officer of Health, Mombasa. This clinic is extremely successful and the administration of such a unit will be extended to cover the needs in other urban areas.

In the Emergency areas of the Central Province a great strain has come upon the Medical Department following the building of villages and closer administration. In these circumstances movement has been restricted to a great extent for security reasons, whilst, at the same time, illness is more easily discovered. To meet the situation the district Medical Officers of Health have adopted a device which merits careful attention. Nearly every district in the Emergency area now runs a mobile dispensary mounted in a short wheel base Land-Rover. This is an extremely popular innovation and, although these mobile dispensaries undoubtedly do good work, they perhaps do not go far enough in combating the actual source of the disease. It is proposed, if possible, to convert mobile dispensaries later into mobile clinics so that both preventive and promotive medicine can be dispensed therefrom, in addition to the medicines given out purely for curative reasons. Mobile units in densely settled areas may not necessarily be the complete solution to the problem when more settled conditions prevail.

On the other hand, in the areas where the population is widely dispersed, there seems to be a call for something in the nature of a mobile health unit mounted in a Land-Rover and supported by a heavier vehicle for load carrying. U.N.I.C.E.F. is interested in this concept and has supplied four Land-Rovers and four 25-cwt. Load Carriers. When staff is available, these vehicles will be used as mobile health units touring four districts inhabited by pastoral tribes. They will not be completely peripatetic, but will visit the existing static dispensaries at fixed periods and remain there some time to follow through with the medical work which they undertake on arrival. This fits in with the stated policy of the Administration, which is to encourage the stabilisation of the pastoral population on their improved grazing areas. If the mobile health units were to follow the population round in its search for grazing, this objective would not be achieved. Diseases which are rife such as tuberculosis, trachoma and yaws would not be effectively treated, nor would the community benefit from a more static and prosperous existence.

### VILLAGE DEVELOPMENT

The congregation of the peoples of Central Province Emergency areas into villages commenced in 1954 and was virtually completed in the Kiambu, Fort Hall, Nyeri and Embu areas during 1955. It is indeed remarkable that this vast achievement was accomplished in so short a time and without major outbreak of disease of any kind. There are 274 villages in Kiambu District, 214 in Fort Hall District, 143 in Nyeri District and 140 in Embu District. The total population involved has not yet been accurately estimated, but the average population per village is about 2,000 persons. There must be about one and a half million people in these 771 villages.

It is natural to expect that so great a social revolution could not have taken place without a few problems and one of the greatest of these was to obtain a compromise between the dictates of security and the essential requirements of public health. Most of the villages were sited primarily with a view to maximum security and consequently the huts were grouped round strong points, usually situated at the top of a hill with the ground sloping steeply on every side and at some distance from the water in the valleys.

Fencing and moating of villages greatly increased the difficulty in layout and the rapidity of development left much to be desired in the preparation of the sites and the construction of the individual huts. The scale of latrine accommodation did not keep pace with the growth of the villages and was inadequate to serve the assembled population.

As the year wore on and as the needs of security became less urgent, the general hygiene of the existing villages was improved and villages constructed towards the latter part of the year were vastly superior to the early encampments of 1954, being located on reasonable sites adjacent to adequate water supplies, with well-built huts, and having one latrine per family unit.



In the early stages of village development the traditional round hut was adopted universally, but recently more preference has been shown for building rectangular dwellings with three or more rooms. In the latest villages of Fort Hall rectangular houses only are being built, but the problem of incorporating a suitable fireplace in the construction has not yet been solved.

Tidiness and cleanliness inside the dwellings is now much more evident, thanks to the teaching of the Welfare and Red Cross workers who have worked so hard in demonstrating these virtues to the householder.

Water supplies have been greatly improved during the year by the boxing and protection of springs. It has been found that some of the yields from the springs were not adequate to deal with the large village populations and conservation tanks were built below the spring to store the night flow. These conservation tanks are fitted with 4-6 draw-offs through spring taps which greatly reduces the time spent by the women going to draw water. Furrows have been dug to some villages and the end of the year saw the installation of rams and piped water supplies to two villages.

Construction has commenced on four of the settlement villages of the Mwea/Tebere area of Embu, where it is proposed to establish a proportion of the landless families of the Kikuyu reserves. The scheme envisages a vast irrigation project on which rice will be the main crop. The health problems connected with this settlement are formidable and prophylactic measures to combat malaria and bilharzia are at present under consideration.

In this area there is no local source of building poles leading to the necessity to use sun-dried bricks to build the hut walls. Shallow subsurface rock has prevented the use of deep pit latrines for these villages and at present a limited number of modified aqua privies are being tried, the only other practical alternative being a bucket conservancy system.

During the year, after much discussion a comprehensive set of village by-laws have been framed to cover the public health requirements in village construction and hygiene. These by-laws await final approval. As the move for land consolidation gains momentum a final redistribution and settlement of the population is envisaged, and every effort is being made to maintain the closest liaison with the Administrative and Agricultural Departments. The object is to ensure that the rehoused population will be living under conditions and in houses as satisfactory as circumstances will allow.

## UNITED NATIONS' SPECIAL AGENCIES

### World Health Organisation

The World Health Organisation has appointed a Public Health Officer for duties in the eastern area of the African region, south of the Sahara. His office is in Nairobi and as a result of the closer approach, the Medical Department has been able to obtain considerably more help from World Health Organisation than in the past. Although no World Health Organisation projects, as such, have been mounted in Kenya during the year, the department has benefited greatly from the numbers of fellowships granted to its staff for study abroad. In 1955 fellowships for study abroad were granted in laboratory technology, tuberculosis, endemic and epidemic diseases especially poliomyelitis and in tuberculosis, combined with rural health. Further scholarships were negotiated for award in 1956 in health education, environmental health, pædiatrics and public health administration. The acting Director of Medical Services attended the Fifth Regional Committee Meeting of World Health Organisation in Madagascar, where most of the arrangements for these fellowships were negotiated.

Towards the end of the year a Medical Officer was invited by the Organisation to attend a Regional Seminar on malaria in Lagos and another officer, together with the officer in charge Health Education, also attended a Regional Seminar on environmental sanitation held in Ibadan, Nigeria.



### United Nations International Children's Emergency Fund

U.N.I.C.E.F. works in close conjunction with World Health Organisation in the role of supply administration, complementary to that of the World Health Organisation, which provides technical assistance and advice. On the advice of World Health Organisation, U.N.I.C.E.F. made available generous supplies of Dieldrin and vehicles for the prosecution of the Nandi Dieldrin Spraying Scheme, which is now in its second and successful year. Much equipment, as has already been mentioned, has been received for assisting the Maternity and Child Welfare and Health Centre Organisation of the Government and Local Health Authorities.

At the same time U.N.I.C.E.F. has supplied teaching equipment for the Medical Training Centre and most valuable and useful equipment for use in the Health Education Unit of the Medical Department. Without this generous material aid much of the welcome progress in Medical Department affairs which has been recorded in 1955 could not have been achieved. One of the most useful items of supply made available by U.N.I.C.E.F. has been in the form of dried skimmed milk. This aid has been invaluable as various degrees of malnutrition in children have been discovered, especially in the Emergency areas. Although dried milk is made in some quantity in Kenya it would not have been possible, without this extra aid, to have brought the situation so quickly under control. It is hoped that an area office for U.N.I.C.E.F. will be opened in Nairobi in the near future which will greatly facilitate the relations between Government departments and U.N.I.C.E.F.

### WELFARE

As a result of the development of villages and closer administration in the Central Province areas, it became quite clear that an enlarged organisation for health visiting and welfare was necessary to meet the problems that arose from these new developments. Although the difficulties were more pressing in Central Province areas, this does not mean to say that other areas did not suffer at the same time. There were periods of near famine in the Teita District and there were calls for welfare assistance from the Machakos and Kapsabet Districts, to mention only two. As a special measure the department enlisted the aid of the Red Cross Society and the St. John Ambulance Brigade. Five workers from these organisations have been engaged on medical work in the Embu, Nyeri, Fort Hall, Machakos and Kapsabet Districts. In addition, 11 other welfare workers have been employed in the Emergency areas performing essentially the same duties as those workers engaged by the Medical Department. At the same time workers from the missions have been busy on social and medical welfare in most areas. Transport in large measure has been supplied by U.N.I.C.E.F. and relief food has been made available from the same source and from special money voted by the African District Councils. There has been a remarkable change in the conditions of African domestic management, especially in the Central Province, which has been reported by Medical Officers of Health, when discussing the progress of village development. It is hoped the work as started will continue and grow to cover most districts in need throughout the Colony, but the financial difficulties now loom large. With experience, however, of the organisation of such a service, it may be possible to employ the European welfare workers only in an educative capacity and to rely upon their trained African staff to cover the widespread needs of the population in urban and rural areas.

### HEALTH EDUCATION

The end of 1955 saw the second full year of working of the Health Education Unit. It is clear that the original concept of this unit was sound and that our expectations have been fulfilled. The main object of Health Education, as run by the department is to provide material and precept for teaching the teacher, in order that he may be equipped more easily to demonstrate and drive home his lesson to the pupils in the field. The Health Education Unit differs in this way in its approach to the public as compared with, say the Education Department and the General Information Services. These latter organisations made a direct approach and appeal to each



individual member of their pupilage, but the subjects dealt with by the Health Education Unit are of a technical and personal character. Hence, the message to be brought home to each and all is carried by personal word of mouth and demonstration by members of the Medical Department itself.

As health education is closely linked with the training of auxiliary medical personnel, it is right that it should be associated with the Medical Training Centre and work also in co-operation with the Child Health Officer. The Health Education Unit gives lectures to the pupils in the Training Centre on the technique of this personal type of education and at the same time has the opportunity of instructing Assistant Health Inspectors and Health Assistants when they are brought in for their refresher courses. Since much of the instruction in health matters is aimed at the women and mothers with a view to improving standards of child care and home management the assistance of the Child Health Officer is invaluable. She is able to guide the Health Education Officer in the ways in which he should plan his operations. This is more especially true when a campaign is to be mounted on the better instruction of the population in nutritional matters.

The output of the Health Education Unit, in terms of money, amounted to £2,000, which represents the value of the material made and sold from the workshops. There were posters, models, film strips and tape recordings, amongst the manifold items distributed. Very soon it will be possible to distribute cinematograph films made on the new magnetic strip principle, which will allow of the dubbing of these films with a commentary in the vernacular. Each and every article of every type that was produced has been designed for the use of a trained member of the departmental auxiliary staff who is expected to explain and expound the subject to the people with whose medical care he is charged.

It is again a pleasure to acknowledge the generous help received from U.N.I.C.E.F. A large demonstration van has been presented, together with film strip projectors, tape recorders, public address systems and a modern film projector. This material was received late in the year and it is not expected that full use can be made of it until 1956.

Besides the work described above, the Health Education Unit mounted exhibits at many agricultural and district shows. As a result of this there was little time left for members of the unit's staff to work on plans to support special campaigns which the department wish to undertake. The programme of the unit is now in danger of becoming over-full and beyond the capacity of the staff and the available finances. Careful thought is being given to this matter in order to avoid dissipating the energies of the unit into too wide a field. The temptation to do so has been great, in view of the remarkable success that the unit has already achieved, but the danger will pass if the unit can earn sufficient revenue to support its expansion. It is hoped, therefore, that the local health authorities will continue their full support of the unit through the purchase of material which has been specially designed to suit their needs.

## **PRISONS, PRISON CAMPS AND DETENTION CAMPS**

Accommodation in detention camps proved adequate throughout the year, although much judgment was required in giving standards of construction sufficiently high to preserve health and yet avoid unnecessary expense. Difficulties with the water supply reticulation system at Manyani were largely overcome by the end of the year.

Communal cooking was made the rule and this ensured satisfactory control of food hygiene. Sound but simple methods of disposal of night soil and sullage wastes have proved effective in controlling fly breeding without the excessive consumption of insecticides and disinfectants.

The typhoid epidemic mentioned earlier in this report was a carry over of the 1954 outbreak. It was controlled by strict attention to environmental hygiene, and selection of cooks and food handlers by serological tests to exclude symptomless carriers of the disease.



In spite of the typhoid epidemic and the outbreak of pellagra also previously commented on in the report the incidence of sickness remained surprisingly low especially in the case of pulmonary tuberculosis.

As the year progressed the work of the Senior Medical Officer, Prisons became less concerned with control of personal and environmental hygiene, which was well established on a routine basis and more concerned with the Ministry of Defence on problems connected with rehabilitation and release.

### COMMUNICABLE DISEASES

There was no major outbreak of any of the six convention diseases in the Colony.

#### Malaria

The number of cases of malaria reported from all stations was substantially lower than in 1954. Absence of any large scale epidemic of malaria enabled the Division of Insect Borne Diseases to concentrate resources in helping the local teams in Nandi to carry out the first spraying cycle with Dieldrin. This scheme is sponsored by the World Health Organisation and equipment and supplies have been generously provided by the United Nations International Children's Emergency Fund.

Spraying operations began in January and were completed by the end of March, a total of about 38,000 huts being treated. The operations were welcomed enthusiastically by the Nandi people who were quick to appreciate the almost total disappearance of other insects besides mosquitoes, although, as was to be expected, houseflies quickly acquired resistance and were not long in making their reappearance.

Results of the first year's operation have been difficult to assess as mosquito breeding of vector species in control areas has been low.

Spraying will be repeated with the aid of U.N.I.C.E.F. in 1956 and 1957, after which it is hoped that the scheme, having proved its efficiency, will be taken over and repeated yearly by the Nandi African District Council.

#### Onchocerciasis

The Senior Parasitologist reports:

"During 1955 extensive surveys were made in Kaimosi and visits paid to Kisii and Kericho to ascertain whether *S. naevei* was still absent from those areas. All the main rivers and their tributaries were included, but no *S. naevei* adults were caught.

"However a disturbing find was the presence of three larvae on crabs collected in the River Yala on the 23rd December, 1955. These are either the early stages of *S. naevei* or *S. nyasalandicum*, which are very closely related and difficult to distinguish. Work in the Kaimosi area will be intensified early in 1956."

There are sound grounds for hoping that this possible remaining focus on the Yala River will be eliminated in 1956, thus completing the eradication of the vector of river blindness from the entire Colony.

#### Trypanosomiasis

It had been feared in 1954 that sleeping sickness, both in Central and South Nyanza might be entering a phase of increased incidence. Happily these fears have proved unfounded and 1955 showed marked decline in cases from both districts.

A small but very effective amount of bush clearing was carried out on the lake shore, extending southwards from Sakwa in Kadimu Bay and further clearing took place at the mouth of the Kuja River.

Intensive work has been carried out in the Sakwa area of Central Nyanza to determine whether *G. palpalis* or *G. pallidipes* is the vector of human disease in this locality. Wild flies are caught and fed on white rats. By the end of the year a polymorphic strain had been isolated from *G. palpalis*. This strain is now being



investigated by the East African Tsetse and Trypanosomiasis Research and Reclamation Organisation at Sukulu near Tororo to determine whether it is infective to man. If this should prove to be the case it will have important repercussions as it will indicate that the more virulent Rhodesian form of the disease is present in the area.

### **Typhoid**

With better standards of hygiene and sanitation prevailing in camps and villages and more settled conditions generally as recorded elsewhere, the total number of cases of typhoid fever fell to half that of the previous year. As previously reported this disease must be expected to be endemic for many years to come, and it will not cease to be a major threat to health until personal hygiene, vastly improved domestic sanitation and pure water supplies are universal.

### **Poliomyelitis**

The outbreak which started in 1953 and continued in 1954, persisted with lesser intensity into 1955. By the end of the year 27 Europeans, 11 Asians and 211 Africans had been notified as suffering from paralytic poliomyelitis. These figures show a considerable reduction in European and Asian cases over the previous year, the European incidence being 60 per 100,000 compared with 258 per 100,000 in 1954. By the end of the year the epidemic appeared to be over and it is probably that by now the majority of the previously susceptible have acquired immunity by subclinical infection.

### **Schistosomiasis**

Control of schistosomiasis continues to be a major preoccupation. Much anxiety has been expressed as to the dangers inherent in certain resettlement schemes based on irrigation projects which are now being put into effect. Snails which are vectors of schistosomiasis already exist in these areas and are likely to breed heavily in the irrigation canals if not controlled. If infection of the snails should take place a very considerable threat to the health of the settlers would be created. Agreement has been reached, however, that resettlement schemes which involve disturbance of the existing balance of nature and the introduction of non-immune populations shall take into account in the basic planning of the schemes the provision of health staff, equipment and material sufficient to counter the hazards to health created by the scheme itself.

A senior officer of the Department has been invited to visit the Gezira Cotton Scheme in the Sudan in 1956 and it is hoped that much may be learned of the control of schistosomiasis in irrigation projects during this visit.

### **Kala Azar**

Notifications of kala azar from Kitui district showed little change from the previous year and the disease there seems to have settled down to normal endemic proportions.

A new but much smaller focus has been discovered at Marigat associated with the stock route from Baringo. Most of the cases appear to have contracted infection in small villages in the foothills bordering the road. The position in Kitui and in Marigat is being closely watched, and much work is still being carried out by the Senior Parasitologist to determine which species of sandfly is the vector and also which animals may act as reservoir hosts of the disease.

## **PUBLIC HEALTH AND ENVIRONMENTAL SANITATION**

### **General and Staff**

The European Health Inspectorate now allows for the posts of seven Senior Health Inspectors in addition to the post of Chief Health Inspector. These senior posts include the Instructor in Hygiene, i/c School of Hygiene and Health Education Officer, i/c Health Education Unit. The other experienced and well qualified officers are now available to guide the inspectors in the provinces. The division remained four short of European Health Inspectors at the end of the year, although extra calls on their services were made in respect of Emergency Development in the Central Province in connection with more permanent types of villages, improved water



supplies and works camps. The increase in public health work including the prevention of major epidemics in the other provinces, especially Nyanza, was also met by the small establishment.

The Assistant Health Inspectors continued to carry out valuable work in the field under the European Health Inspectors and the demand for their services is increasing, especially from County Councils. The strength of 31 Government Assistant Health Inspectors out of an establishment of 39 is slowly allowing their posting to districts with the ultimate aim of one per division in an A.D.C. area and one per U.D.C. or R.D.C. in the case of County Councils.

Ten four-year students of the Health Inspectors' Course at the School of Hygiene who failed the 1955 certificate again sat and the examination board passed six of that number. The recommendation of the examination board to obtain students of a higher basic education was implemented and the new first year A.H.I. students are now of a Cambridge School Certificate standard.

Training of African Health Assistants for Municipalities, African District Councils, County Councils, and other Local Authorities continued during the year on a block system at the School of Hygiene and on a general course at Kapsabet. A total of 33 trainees were passed through the schools and were posted to their Local Authorities, mainly African District Councils. This type of Health Assistant is trained at the School of Hygiene by an initial three-month course and then back to his district for 18 months' practical training, returning to the school for a final three months' training to take the examination. His work in locations and divisions in reserves and also in townships is invaluable since he has a practical approach to all the manifold local health problems of his own people. The new Central Medical Training School has reached the planning stage and when built will allow the training of Health Assistants to be increased.

#### Local Government Health Authorities

Local Health Authorities responsibilities remain as heretofore, with Nairobi City, Mombasa and Nakuru fully responsible for their own public health services with independent staff. Kitale, Eldoret and Kisumu townships retain the part-time service of the Central Government Medical Officer as Medical Officers of Health whilst employing their own health inspectors and subordinate staff.

Local Government development has continued in the formation of County Councils, many of whom have accepted the responsibilities of becoming public health authorities—to wit, Naivasha, Nakuru and Nairobi County Councils. The Aberdares and Nyanza County Councils have yet to accept public health responsibilities, though they both are examining the financial implications of such a course. Uasin Gishu and Trans-Nzoia District Councils failed to agree on amalgamation to become a County Council with health responsibilities and the former are now mooting the possibility of combining with Eldoret Municipality to form a County.

The acceptance of public health duties by Local Government bodies is proving a great stimulus to progress and the three newly formed County Councils have already built up public health departments complete with ambulance services, dispensaries, health centres and sanitation divisions.

Maternity institutions have been erected by both Naivasha and Nakuru County Councils, but both these Councils are adopting the concept of domiciliary maternity services, with institutional services reserved for *primipara* and abnormal cases. This concept correlates with the adoption by Nairobi and Nakuru County Councils of a health centre development programme, such as has proven successful in the African rural areas.

Naivasha has developed along slightly different lines with the growth of fee paying dispensaries, some with beds incorporated for holding emergency patients, employing fully qualified nurses and doctors on a part-time basis. This policy whilst possibly giving a higher standard of therapeutic medicine to the population does not integrate the preventive and promotive services so closely with therapeutic services, as does the health centre concept.



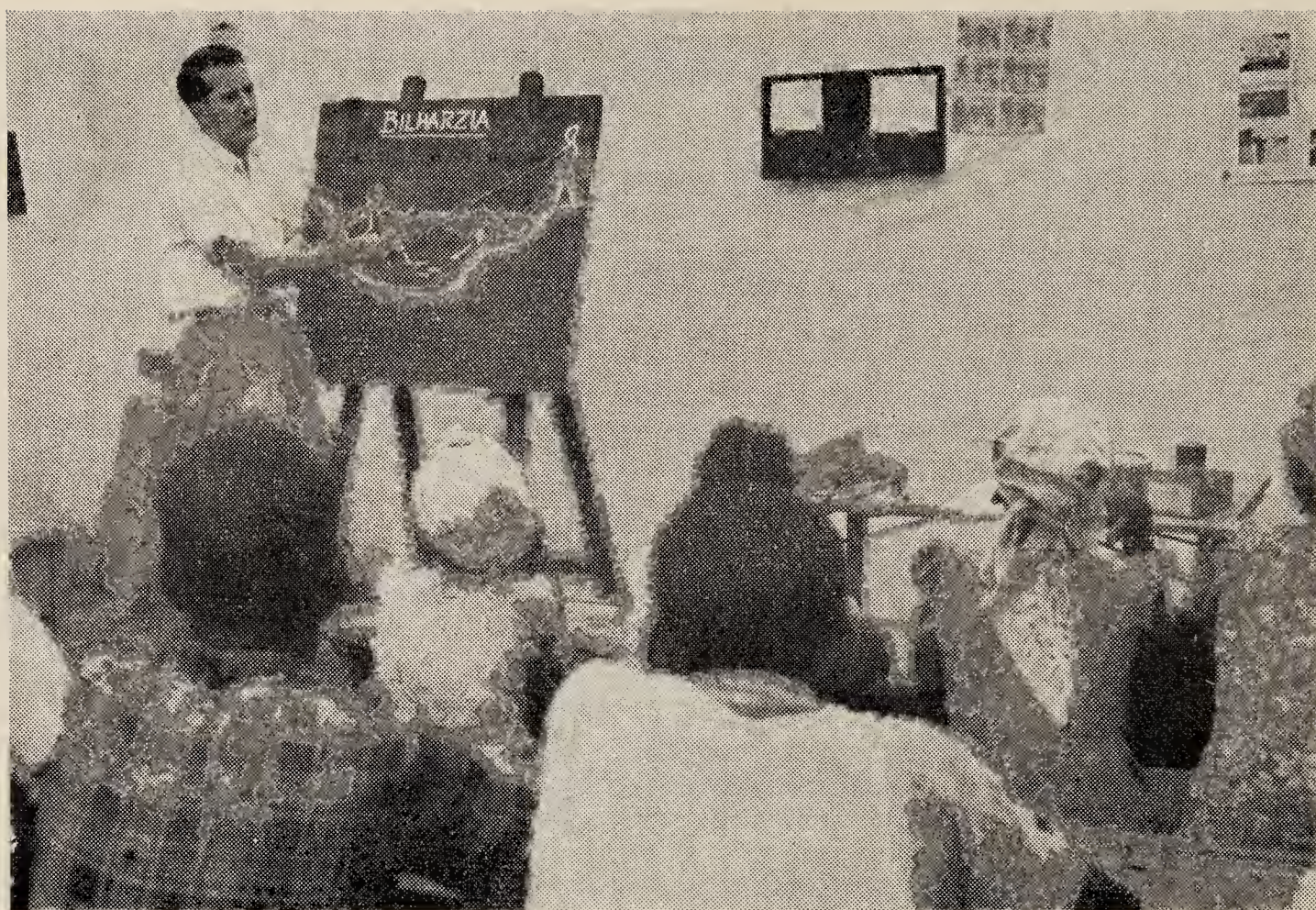


**The Mary Griffin Home for African Nurses—King George VI Hospital**

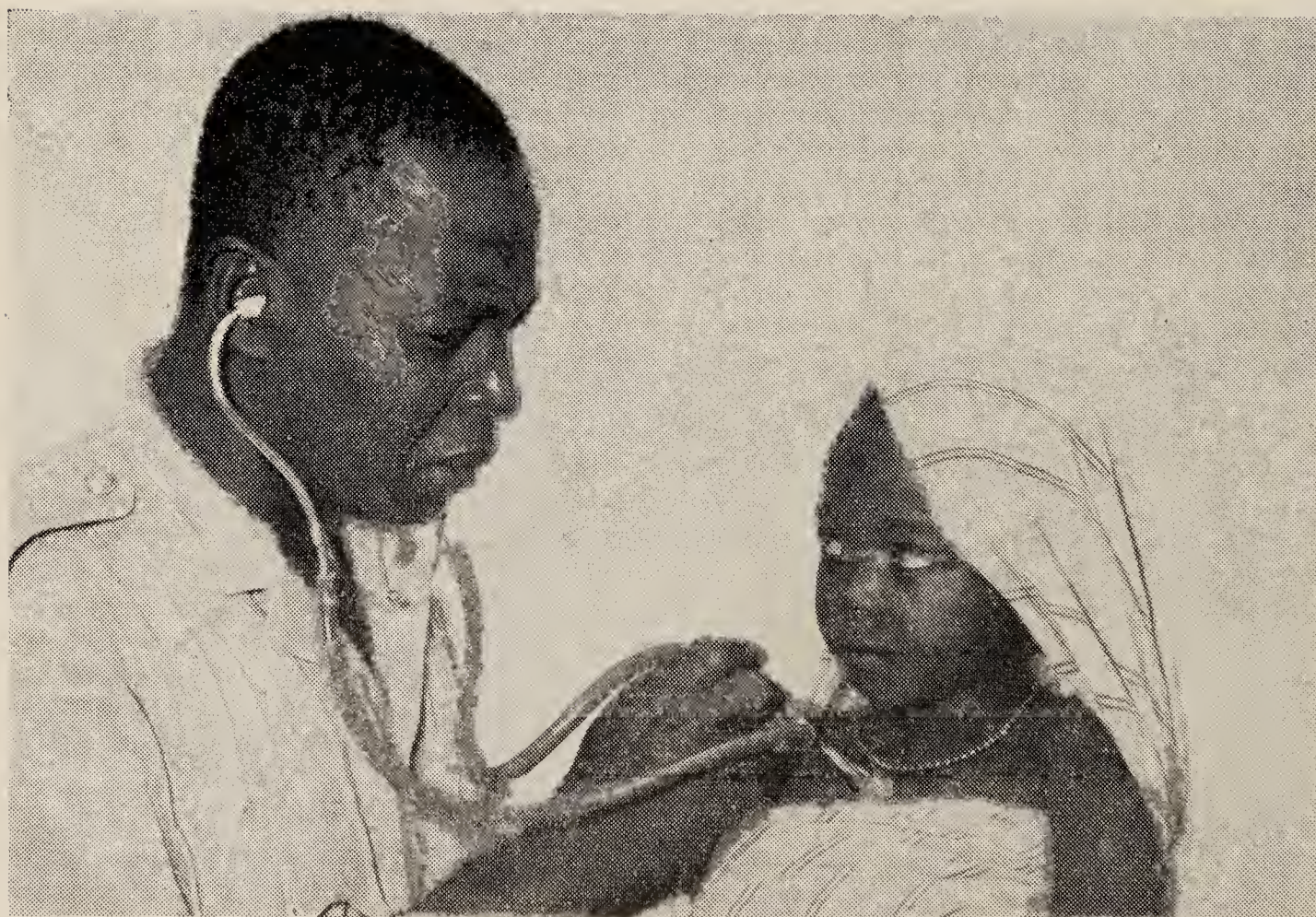


**A typical village in Fort Hall Reserve**



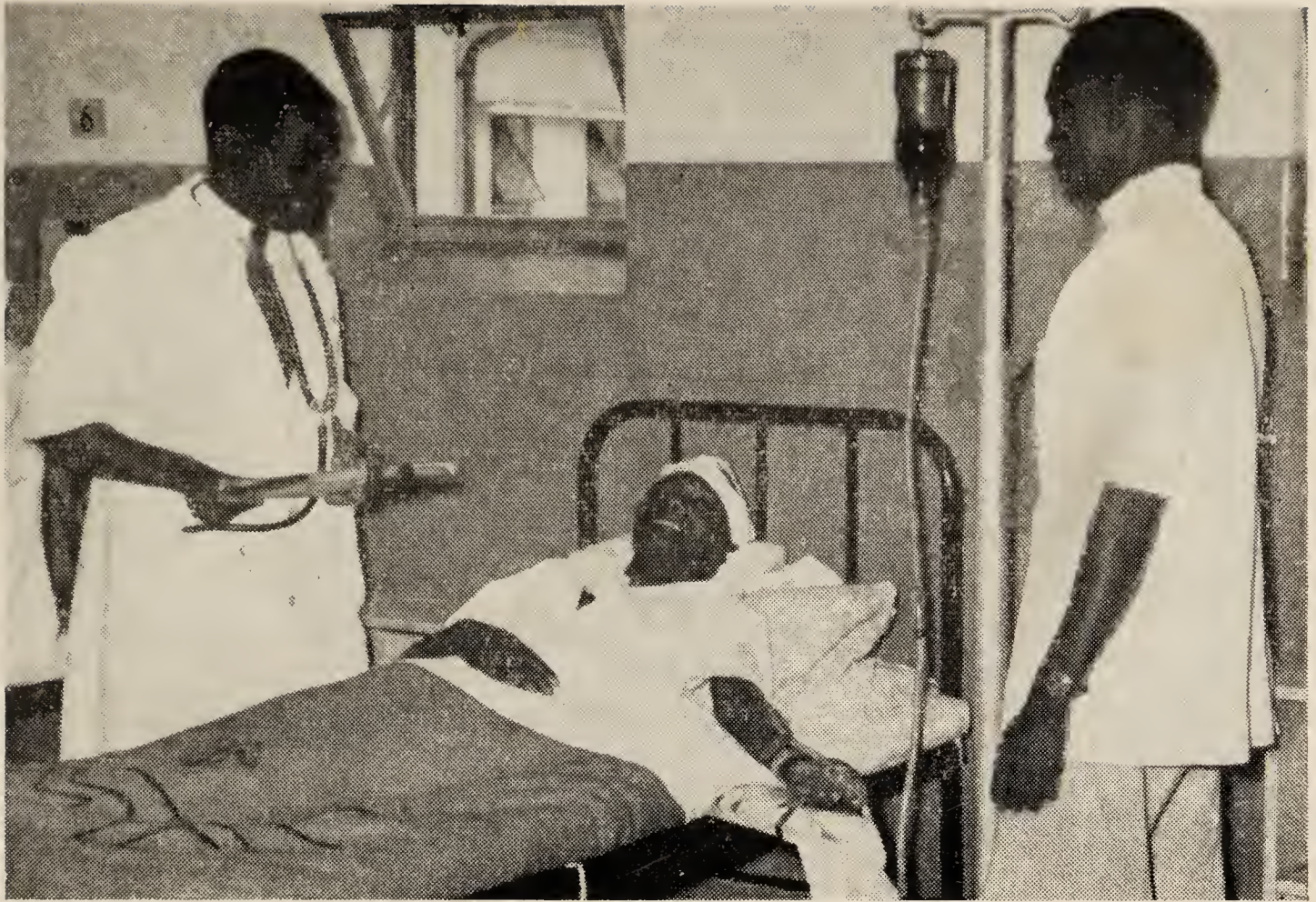


**Lecturing on bilharzia—Kilifi**

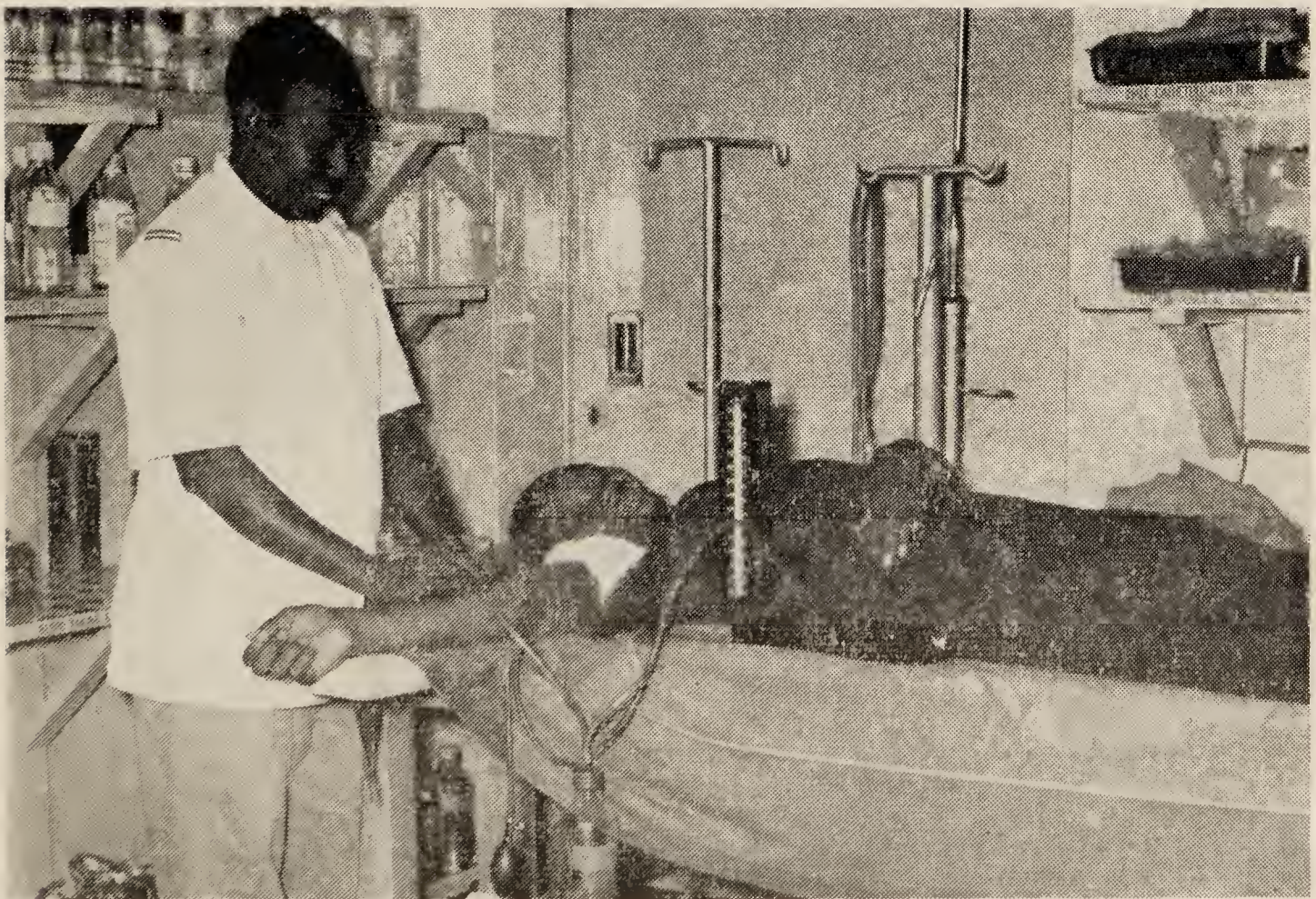


**Work in the Pokomo Reserve**





**Patient receiving blood—King George VI Hospital**



**Blood transfusion—King George VI Hospital**





**A ram water supply—Fort Hall Health Inspector shown**



**The Dieldrin Scheme in operation—Kapsabet**



Naivasha County Council has provided a bedded dispensary at Gilgil and dispensaries at the North and South Kinangop.

Maternity institutions have been built at Molo by Nakuru County Council and at Naivasha by Naivasha County Council.

The City of Nairobi and Municipalities of Mombasa, Kisumu, Nakuru, Eldoret and Kitale have continued to develop their public health services, largely along the English urban pattern. Nairobi, Mombasa, Nakuru and Kitale have paid particular attention to increasing their water supplies, which in Nakuru Municipality has the added complication of mixing waters from various sources to assure a fluorine content not exceeding 1.5 p.p.m. Eldoret improved the protection of their water catchment area and provided chlorination treatment to their supplies.

Likewise the provision of effective sewage and conservancy services has continued to expand, Nakuru Municipality in particular having embarked on a full water-borne sewage project.

Thika Township Stage 1 and Thomson's Falls water-borne sewage have been completed during the year, whilst Kitale is still planning a water-borne sewerage scheme.

These urban areas are likewise expanding their dispensary and clinic services—ante-natal, child welfare, V.D. and immunisation. The employment of health visitors and domiciliary visiting is expanding along with the growth of health education services.

Nakuru, which in 1954 took over the Railway Dispensary has expanded this service into an Urban Health Centre with great success.

The incidence of tuberculosis in both rural and urban areas is causing much concern and the fear is expressed that the problem will increase with the increasing urbanisation of the African. Plans are being developed for a pilot scheme in conjunction with Nairobi City Health Authorities and a rural area to attempt an out-patient oral therapy combined with a full preventive and promotive domiciliary service.

County Councils are co-operating in organising a tuberculosis service that includes initial hospital residence for assessment and initiation of treatment with P.A.S. and I.N.A.H., followed by a house-visiting preventive and promotive programme and clinic continuation of therapy. Small epidemics of plague occurred in the Nakuru County Council area at well recognised endemic foci, and were energetically and successfully tackled by combined Central Government and Local Government Health Authorities.

Probably the most important item in local health authority programmes throughout the year has been the attempt to redress, through the medium of County Council Health Authorities, the imbalance between the urban and rural health services.

The broad policy has been:

- (a) to provide an efficient curative rural service through the institution of health centres and dispensaries, which are linked by ambulance services to central hospitals;
- (b) to develop a form of maternity service that caters for both the domiciliary and institutional case;
- (c) to provide for the control of communicable diseases and the active promotion of health.

The programme during the year towards the achievement of these aims has not been inconsiderable.

The co-ordination of Central Government health policy and local authorities' health services has been achieved, not so much through central directives, but through the medium of personal contact between Provincial Medical Officers and Medical Officers of Health of Central Government with the Health Committees and Medical



Officers of Health of Local Health Authorities. Co-ordination has been furthered and policy determined by regular meetings twice yearly of Medical Officers of Health under the chairmanship of the Provincial Medical Officers. The prevalence of communicable diseases and the necessity for co-ordination between hospital treatment and field prevention has been a factor in effecting this co-ordination.

The main factor in determining the rate of growth of health services has been the financial implication. The principle of the diminishing grant of 95 per cent for the first year's public health expenditure diminishing to 50 per cent over the years has caused concern to newly formed local health authorities. This has placed an undue emphasis on development during the first year of life of a public health authority, and the problem is under active review.

### **African District Councils**

Two new African District Councils were created during the year. The former district of North Nyanza was divided into two districts, north and south of the Nzoia River, the new northern district being given the name Elgon Nyanza, with its headquarters at Bungoma. The former Masai District Council, which was composed of members from Narok and Kajiado districts was dissolved, each district now having its own separate council.

The total amount voted by all African District Councils for public health services, including health centres, dispensaries, maternity and ambulance services was £210,179 out of a total budget of £1,595,755. This represents an expenditure on health of 13 per cent of total expenditure.

Much progress was made during the year in taking health education to the people by the health visitors, health assistants and home visitors employed by the councils and based on the various health centres.

### **Housing**

Housing for all races continues to present a major problem to the Colony, whose solution has to be brought within the limits of good social and health planning for the family and the economic capacity of the country. The needs of European and Asian populations alone amount to £8,000,000 and rough estimates are that each community requires approximately £4,000,000 worth of housing. African housing schemes throughout the Colony are co-ordinated through the Central Housing Board and its technical sub-committee, on both of which the Director of Medical Services is represented. This Board by 30th November, 1955, had approved loans to the total of £2,123,689.

The concept of adequate housing has until recently been based upon the principle of bed-space per individual, but this is being superseded by the concept of living space for the family. The adherence to a bed-space policy brings in its train the social consequences of disruption of the family unit—the growth of prostitution to mention but one aspect, the impossibility of ensuring permanent skilled and semi-skilled labour.

Basically the principles of (i) living space for the family both inside and outside the home; (ii) a safe and clean water supply; and (iii) a safe conservancy system, are three irreducible minimum standards within which a solution must be sought. This might not be so difficult to achieve were the position not further complicated by the sharp distinction drawn between temporary and permanent housing, the very natural desire to achieve European type housing, and the ever-increasing higher standards demanded by the African year by year, so that what is satisfactory today becomes obsolete tomorrow. In seeking a solution the problem is reduced if a division to rural and semi-rural needs on the one hand and urban requirements on the other is made.

The rural housing requirements are being met more and more, and this has been emphasised by the growth of villages throughout the disturbed areas, by the utilisation of locally available materials to build improved indigenous type houses. The attempt to remove at one step from the primitive rural mud-and-wattle adobe building to a European style house is a mistake; and it is vitally necessary to return to the intermediate step of improved indigenous type housing.



Whether the house be of rondavel traditional shape or of the square European tradition matters not provided adequate space is afforded for the family to live in comfort and cleanliness and a permanency of 15-20 years in building construction is maintained. This can be achieved with improved methods of building in local materials such as timber offcuts, bamboo, stabilised earth or rammed murram suitably cement washed. The main difficulty lies in roofing. The thatch roof has the inherent danger of fire, rat infestation, insect harbourage and dirt, and the drawback of continual maintenance and repairs. This may now be overcome for all types of houses by the use of prefabricated fluted aluminium roofing.

If such a house is set in its own small garden within a village community, having a piped water supply and village pump and individual domestic bored-hole latrines then the problem is virtually solved for the next decade or two.

Many villages have been erected on these principles throughout the disturbed areas and as the emergency recedes and more time is available for considered planning and siting so the standards will improve. The acceptance of these standards by the African rural population and their desire to perpetuate them is evidenced in their voluntary collection of sums of money of nearly £500 by a village community for supplying rammed water to such a community.

The problem of rural housing and its solution has been admirably set out by the Medical Officer of Health of Naivasha County Council in a small booklet entitled *Rural Labour Housing* which the department intends to circulate to all its Medical Officers of Health. The booklet includes a simple plan for a mud-stove and oven and so eliminates the smoke nuisance encountered in the majority of huts today.

Urban housing needs are more difficult to solve, and are more striking in their need to be solved. The growth of an urban African population, landless and industrialised, is obvious; the appalling slum conditions under which the African lives, particularly in peri-urban areas, are even more obvious. The demolition of these shanty towns and slums without the provision of alternative adequate and reasonable housing is no solution.

The Colonial Office Memorandum (1954) on Housing in British African Territories issues a word of warning: "If standards are set too high, new housing becomes too costly. If standards are set too low, existing unsatisfactory conditions are perpetuated." The policy of "balanced realism" is essential. To this end the definition of a "permanent" house should be found in the formula "a house built of such materials that it will last for 15 years without unduly high recurrent maintenance costs." At the end of this period standards will have risen so much that it will be unacceptable to Africans anyway and no huge capital costs will be sacrificed by demolition.

Kitale Municipality have experimented along these lines building rondavels with permanent water supplies and sanitary services. Though not perfect they point the way to the future—reasonable living standards at reasonable economic rentals. The difficulties of building in permanent materials have been emphasised by the Nairobi City Council's problems in their extensive building programmes.

There also exists the necessity of building houses of high standards suitable to a growing class of "white-collar workers" and the college and university graduates. There are many admirable examples of high standard housing throughout the Colony, but the limiting factor to a sufficiency of such houses is finance.

Merely transferring families from old houses to new, however, is but half the battle won. The new houses can soon become slums unless educational methods are brought into to play to teach the people to make the best use of their new houses. Slums can still be made of new housing estates with bad habits, unlimited family expansion, and sub-letting.

### MEDICAL STORES

Supply from overseas was satisfactory during the year. The shipping position is gradually improving and the lengthy delays in supply hitherto experienced no longer occur. This has allowed a build up of stocks to a satisfactory level.



During the early part of the year the new extensions to the medical stores were completed. This enlargement gives some extra 25 per cent of floor space and enables a better lay-out of bulk stock.

The volume of work at medical stores during the year showed a marked increase over the previous year, due mostly to commitments under the Emergency.

Some 4,000 individual requests for stores were met during the year and packages despatched amounted to 26,000.

Stores expenditure for the financial period July, 1954 to June, 1955 amounted to £286,500.

### **STERILE PREPARATION UNIT**

The amount of material turned out by this unit, situated at the King George VI Hospital, Nairobi showed an increase of approximately 25 per cent over the previous year. Some 60,000 bottles of various preparations were manufactured during the year.

### **BOARDS AND STATUTORY BODIES**

#### **Medical Practitioners and Dentists Board**

The Medical Practitioners and Dentists Board which performs the same functions in Kenya as the General Medical Council in the United Kingdom, held two full meetings during the year. Fifty medical men were registered and two dental surgeons; in addition 14 practitioners were licensed to practise. The total number of practitioners on the register during the year was 607 and the total number of licensed practitioners was 53. Three disciplinary cases were considered by the Board, but in no case was the name of the practitioner erased from the register. New legislation which was enacted during the year included the Medical Practitioners and Dentists (Amendment) Ordinance, 1955. The most important item was the requirement that one year's internship at a recognised hospital should have been held prior to registration, thus bringing the law in Kenya in this respect into line with that of the United Kingdom and the Republic of India.

#### **Pharmacy and Poisons Board**

The Board had four meetings during the year. The Standing Pharmacists Sub-Committee, which deals with much of the detailed work of the Board met on numerous occasions. The Board was concerned for much of the year with the preparation of the final draft of an amended Pharmacy and Poisons Ordinance. Lengthy negotiations with neighbouring East African territories, with the object of achieving uniformity of legislation, were concluded satisfactorily. It is hoped that this amended Ordinance will be enacted in 1956. The Inspector of Drugs, who is a member of the Medical Department, and who acts under the direction of the Board, continued actively to carry out inspections in all accessible areas of the Colony, as a result of his activities there has been a noticeable improvement in the general compliance with the law.

#### **Nurses and Midwives Council**

Four full meetings of the Council were held during the year in February, April, August and October. The work and responsibilities of the Board continued to increase and a Registrar was appointed during the year to relieve the Matron-in-Chief of this duty, which had formerly been carried out by her. The number of nurses registered and enrolled during 1955 is as follows:

Registered Nurses .. .. .	66
Registered Midwives .. .. .	38
Enrolled Nurses .. .. .	5
Enrolled Midwives .. .. .	8
Children's Nurses .. .. .	6
Assistant Enrolled Midwives .. .. .	69
Assistant Enrolled Nurses, Grade I .. .. .	22
Assistant Enrolled Nurses, Grade II .. .. .	199



An important part of the work of the Council consists of the conduct of all nursing and midwifery examinations throughout the country. The detailed work in connection with examinations is carried out by a sub-committee of the Council. During the year for the first time funds of the Council enabled a small honorarium to be offered to examiners for their services. The number of candidates examined in the various categories was as follows:

	Passed	Failed	Total
Kenya Registered Nurse .. .. .	2	—	2
Kenya Registered Nurse (Preliminary) ..	7	—	7
Assistant Nurse, Grade I (Final) .. ..	16	—	16
Assistant Nurse, Grade I (Preliminary) ..	57	11	68
Assistant Nurse, Grade II .. .. .	85	58	143
Assistant Midwives .. .. .	51	31	82

There is no doubt that during the few years of its existence this Council has carried out its most important duties in an efficient manner, and it has achieved considerable success in maintaining the standard of nursing training.

#### Joint Advisory Council of St. John Ambulance and Kenya Red Cross Society

Three meetings of the Council were held during the year. These meetings afford a common approach to problems of mutual interest. The chief topics discussed concerned the help which both organisations are rendering to the Government and to the community to meet the special conditions caused by the Emergency. A special tribute must be paid to both organisations for the help they have given, in particular to the recruiting of nurses and welfare workers to carry out relief measures in the Emergency areas.

#### British Empire Society for the Blind, Kenya Branch

Although this Society is an independent one, it is closely connected with the Government. A draft of the constitution was evolved during the year and when it is brought into force it will greatly enhance the prestige and standing of the Society.

The mobile clinic, which has rendered great assistance to the Medical Department by carrying out a survey of eye diseases and affording facilities for treatment in the field, concluded its operations. Steps are being taken to ensure that the useful work which this unit has carried out will be continued through departmental channels.

#### Medical Missions

Medical Missions continued to carry out most useful work during the year. Medical Missions may be considered in two groups; (i) Protestant Missions operating under the aegis of the Christian Council of Kenya, and (ii) Roman Catholic Missions.

Protestant Mission hospitals which have been established for many years continued to receive grants-in-aid from Government. The Mission Hospitals concerned included the following:

##### *Church Missionary Society—*

Meseno .. .. .	101 beds.
Kaloleni .. .. .	93 beds.

##### *Church of Scotland Mission—*

Kikuyu .. .. .	105 beds.
Tumu Tumu .. .. .	115 beds.
Chogoria .. .. .	105 beds.



Other Missions operating under the Christian Council of Kenya are:

Maua	..	..	..	..	..	86 beds.
Ngao	..	..	..	..	..	23 beds.
Kaimosi	..	..	..	..	..	107 beds.
Kendu Bay	..	..	..	..	..	89 beds.
Kapsowar	..	..	..	..	..	41 beds.

Two other hospitals were built during the year, but these did not receive Government grants.

Catholic Missions have entered the medical field comparatively recently, with the exception of the Consolata Catholic Mission at Mathari, near Nyeri, which has been established for many years. A number of Mission hospitals have recently been opened by the Consolata Mission, particularly in the Central Province and, with the exception of a small training grant for Mathari, these hospitals are not as yet State aided.

Most of the Mission hospitals maintain dispensaries, many of which receive financial aid from African District Councils. Close liaison was maintained between the Medical Department and the Medical Missions during the year.

### DIVISION OF INSECT BORNE DISEASES

The Senior Parasitologist was awarded a World Health Organisation fellowship and spent most of February and March in Persia working in the Pasteur Institute in Teheran. A special study was made on the "negative phase" of spirochaetes in lice and a description of the researches merits publication in the scientific Press.

The work carried out by this division has been widespread and varied. In the Central Laboratory in Nairobi entomological investigations continue on the taxonomy of mosquitoes and sandflies to such good effect that it may be truthfully said that two leading world experts on the identification of mosquitoes and sandflies are employed by the division. Work in the field has been divided into many separate and important projects which can be more conveniently described in the form of a list:

(a) The Nandi Dieldrin Spraying Campaign has had to be supervised on the entomological side by the division's staff and catching stations have been set up in order to determine the effectiveness of the spraying against the two vector mosquitoes. The results of this work will be published in due course, together with the results of the malariometric survey in connection with the scheme.

(b) Insecticide trials have been continued, using a new type of insecticide and investigating more effective methods for the application of the older established formulations. Two insects of practical importance are the house-fly and the culicine mosquito and it appears that an organic phosphorous insecticide will be highly effective in the control of these two pests, which are otherwise resistant to the older residual insecticides.

In 1949 a small town at the coast called Mambrui had every house sprayed with D.D.T. The result was a complete disappearance of the *aedes aegypti* mosquito, and after six years this mosquito has not yet succeeded in re-establishing itself. This is a most important finding in connection with the epidemiology of yellow fever and dengue fever in the coastal areas.

(c) There was a small outbreak of plague early in the year in the forest villages of the West Mau Escarpment. The division investigated the outbreak and gave very vigorous assistance in measures for its control. During the investigations the human flea, *pulex irritans*, which is well known in temperate climates, was discovered with some surprise. This little outbreak was interesting in that at one time the theory was held that a considerable amount of transmission from man to man was taking place via the human flea rather than through the rat flea and infected rats. No firm conclusions on this hypothesis have yet been stated.

(d) Kala Azar, as a disease still attracts attention. Two foci have been discovered, one in the Kitui district and the other near Lake Baringo, and despite much investigation it has still not been possible to incriminate the exact vector of this sandfly borne disease.



Fortunately, the disease incidence has receded from its epidemic proportions and investigations can continue unhampered by the alarms and excursions associated with epidemic conditions. The most probable conclusion will be that there is a separate and distinct vector responsible for transmission in each district.

(e) Relapsing fever has also been subjected to further study, particularly in the laboratory, with a view to determining whether the responsible spirochaetes pass through a "negative phase" in the body of the tick and lice. A field trial aimed at the control of the vector tick has been continued in the Tiwi district. It has been found very difficult here to eradicate the tick from the houses and it is becoming apparent that an unusual strain is present which, though capable of transmitting the disease to man, prefers to feed on the domestic fowl.

(f) In the Central Nyanza District, on the shores of Lake Victoria and on the borders of Uganda there is some danger of a recurrence of a virulent outbreak of Rhodesiense type sleeping sickness. The situation has to be watched very carefully especially as there are schemes for resettlement and irrigation in this area. There is a possibility that the Rhodesiense strain may exist in the area which could be transmitted by *G. pallidipes*. Flies have been caught and induced to bite rats and mice with a view to isolating the trypanosome and to identify it definitely by attempting its transmission into human volunteers. Up to date there has, as yet, been little evidence of the presence of this dangerous strain in the flies caught in the locality.

(g) In another part of Nyanza and on the slopes of Mount Elgon the presence of simuliid fly has been kept under close observation following the onchocerciasis eradication campaigns of previous years. Although no fly has yet been caught the situation cannot be said to be entirely satisfactory until several more years have passed without the recolonisation by fly of the river valleys.

(h) The control of schistosomiasis has also been a concern of the division, especially now that there is a big programme of dam construction in the Colony which is to be followed later by irrigation schemes.

Snail searches still continue and trials designed to test the effectiveness of molluscicides have been performed. In previous years very much work was carried out to investigate the possibilities of control by stocking dams with snail-eating fish. It now appears, however, that fish will not completely clear a dam of dangerous snails and if they did the biology of the dam would be seriously affected. The result of the past investigations will be not the control of schistosomiasis, but the establishment of a good and ample supply of protein food from the fish caught from the dam.

### LABORATORY SERVICES

In Nairobi especially and to some extent throughout the Colony, staffing caused difficulties. The year began with the resignation of one Pathologist, who went into private practice in Nairobi City, and ended with the resignation of his successor. Both would have remained if the establishment had allowed of their being granted specialist status and pay. Lower in the scale, the losses by the arrest of *Mau Mau* sympathisers were not made good and there was a serious shortage of competent African laboratory assistants. It was also difficult to retain a suitable force of competent menial laboratory attendants as here again the scales of pay are lower than those obtainable by semi-skilled workers in commercial and private undertakings.

At the Medical Research Laboratory the character of routine work continued to change somewhat, as a decreasing number of specimens from private practitioners were received and revenue from these examinations fell to a few hundred pounds a year. At the same time, work from King George VI Hospital increased and as with the opening of the new Infectious Diseases Hospital and the recruiting of more House Surgeons and House Physicians it was obviously going to increase further, some internal reorganisation was necessary. The upper floor of the south wing was rearranged to act as a routine laboratory into which all ordinary specimens were



received which were sent for multiple or routine tests and in which all the simpler examinations were carried out under the supervision of one Pathologist and two Technologists. This allowed of speedier handling and better correlation of the results of different tests and made it possible to eliminate a certain number of unnecessary examinations.

Vaccine production continued and the amounts prepared and issued are set out in the attached table. The phenolised vaccine referred to in the table was prepared in small quantities from a local strain in response to pressure from field workers who suspected that the alcoholic vaccine prepared from the standard strain was not giving adequate protection in certain outbreaks. No evidence was obtained in support of this and production of phenolised vaccine has now ceased.

The Public Health Laboratory did a considerable amount of work during the year, the total number of specimens examined being 10,213. There was a tendency to ask for bacteriological investigations in outbreaks of food poisoning more frequently than in the past, but these requests were, generally speaking, received too late for the investigations to be of any value, although dysentery bacilli were isolated in three outbreaks.

The Provincial Laboratories at Kisumu and Mombasa continued to work well, that at Mombasa still under very serious difficulties from overcrowding, which will be put right with the opening of a very fine new laboratory at the new Coast Province General Hospital. At Nakuru there were staff difficulties, as no fully qualified Technologist was available to be put in charge there. In the out-station laboratories at district hospitals the African laboratory assistants continued, for the most part, to do a very large amount of work, often with little supervision; these Africans, working as they do in isolation, deserve more praise than they are apt to receive.

	Prepared	Issued to Kenya	Issued to Other Territories	Total Issues
Vaccine Lymph (doses) ..	5,500,000	3,322,543	1,493,270	4,815,813
Typhoid Vaccine (Alcoholised and Phenolised) (mls.) ..	370,278	387,410	45,860	433,270
Anti-Rabies Vaccine (mls.) ..	59,340	35,380	31,140	66,520
Plague Vaccine (mls.) ..	54,000	37,850	1,050	38,900
Standard Agglutinable Suspensions .. .. .	101,600	101,600	Nil	101,600

THE REVENUE EARNED BY THE SALE OF VACCINE TO OTHER GOVERNMENTS WAS AS FOLLOWS

	Vaccine Lymph.	Anti-Rabies Vaccine	Typhoid Vaccine	Plague Vaccine	Total
	£	£	£	£	£
Tanganyika Territory .. .. .	3,154	101	658	21	3,934
Uganda .. .. .	1,200	98	629	—	1,927
Zanzibar .. .. .	87	—	18	—	105
British Somaliland .. .. .	7	—	—	—	7
E.A. Command and R.A.F. ..	30	—	—	—	30
Nyasaland .. .. .	—	320	68	—	388
	4,478	519	1,373	21	6,391

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MISS J. WHITTINGTON, Director of the Overseas Branch of the British Red Cross Society.

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CANDLER, P. L.—“Practical Hormone Therapy in Gynæcology.” (*E.A.M.J.*, vol. 32, p. 113.)

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————— See McKinnon, J. A.

FURLONG, M.—See Van Someren.

HARPER, J. O.—“The Breeding Place of *Ædes* ‘*Stegomyia*’ *Woodi* Edwards.” *E.A.M.J.*, vol. 32, p. 331.

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————— “Pulmonary Hæmosiderosis.” *Central African M. J.*, vol. 1, p. 235.



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- MACDOUGALL, LORNA G.—“Gangrene of the Extremities in Two African Infants.” (*Arch. Dis. Child*, vol. 30, 0. 184.)
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## RETURN OF DISEASES—OUT-PATIENTS, 1955

CODE	DISEASE	EUROPEAN			ASIAN			AFRICAN		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
	INFECTIOUS AND PARASITIC DISEASES									
001-008	Respiratory Tuberculosis ..	—	—	—	—	—	—	4,840	2,164	7,004
010-019	Other Tuberculosis ..	—	1	1	6	1	7	936	974	1,910
020-029	Syphilis ..	1	—	1	9	—	9	8,702	5,027	13,729
030-035	Gonorrhoea ..	1	—	1	11	3	14	17,150	7,269	24,419
036-039	Other Venereal Diseases ..	4	3	7	10	11	21	2,316	1,440	3,756
045	Bacillary Dysentery ..	18	18	36	43	84	127	7,960	7,055	15,015
046	Amoebic Dysentery ..	18	10	28	113	96	209	2,681	1,717	4,398
055	Diphtheria ..	—	—	—	—	—	—	112	74	186
056	Whooping Cough ..	2	7	9	27	44	71	9,713	9,948	19,661
057-340	Meningitis (excluding Tuberculosis)	1	1	2	—	—	—	263	159	422
058	Plague ..	—	—	—	—	—	—	—	—	—
060	Leprosy ..	—	—	—	—	—	—	735	527	1,262
061	Tetanus ..	—	—	—	—	—	—	25	19	44
062	Anthrax ..	—	—	—	—	—	—	204	112	316
071	Relapsing Fever ..	—	—	—	—	—	—	98	34	132
073	Yaws ..	—	—	—	45	80	125	3,577	2,718	6,295
080	Acute Poliomyelitis ..	2	—	2	18	20	38	62	39	101
084	Variola Major ..	—	—	—	1	4	5	12	4	16
084	Variola Minor ..	—	—	—	—	—	—	—	2	2
085	Measles ..	9	79	88	27	30	57	4,608	2,816	7,424
086	Rubella ..	—	3	3	—	—	—	—	—	—
087	Chicken-pox ..	2	30	32	10	7	17	1,764	1,116	2,880
088	Herpes Zoster ..	—	—	—	7	4	11	613	203	816
089	Mumps ..	3	5	8	27	26	53	1,778	929	2,707
092	Infectious Hepatitis ..	4	3	7	7	2	9	574	385	959
095	Trachoma ..	1	—	1	5	5	10	1,847	1,596	3,443
110	B.T. Malaria ..	—	—	—	15	4	19	1,275	631	1,906
111	Q.T. Malaria ..	—	—	—	11	—	11	417	329	746
112	S.T. Malaria ..	64	35	99	48	35	83	21,078	10,181	31,259
115	Blackwater ..	—	—	—	—	—	—	160	90	250
121	Trypanosomiasis ..	—	—	—	—	—	—	10	14	24
120+0	Schistosomiasis (Haematobium)	1	—	1	3	—	3	2,348	1,024	3,372
123+1	Schistosomiasis (Mansoni)	1	—	1	—	—	—	571	349	920
126	Tapeworm ..	6	7	13	11	6	17	8,446	5,838	14,284
127	Onchocerciasis ..	—	—	—	—	—	—	—	—	—
129	Ankylostomiasis ..	—	—	—	4	4	8	2,217	1,525	3,742



# RETURN OF DISEASES—OUT-PATIENTS, 1955—(Contd.)

CODE	DISEASE	EUROPEAN			ASIAN			AFRICAN		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
130-0 131 135 N.O.S. 036-138	INFECTIOUS AND PARASITIC DISEASES—(Contd.)									
	Ascariasis .. .. .	1	1	2	9	7	16	8,162	8,546	16,708
	Tinea .. .. .	4	17	21	22	6	28	2,688	1,773	4,461
	Scabies .. .. .	—	1	1	38	39	77	13,658	12,006	25,664
	Other Infective and Parasitic Diseases .. .. .	16	10	26	1	—	1	7,452	6,304	13,756
140-205 210-239	NEW GROWTHS									
	Malignant Neoplasms .. .. .	5	6	11	1	—	1	103	135	238
	Benign and other Neoplasms .. .. .	24	18	43	1	—	1	276	177	453
	ALLERGIC METABOLIC AND BLOOD DISEASES									
	Asthma .. .. .	6	16	22	75	35	110	2,039	1,196	3,235
241 286-6 290-293 N.O.S. 240-299	Kwashiorkor .. .. .	—	1	1	—	—	—	2,439	2,178	4,617
	Anaemia .. .. .	17	24	41	54	40	94	1,390	1,584	2,974
	Other Allergic Endocrine, Metabolic and Nutritional Diseases .. .. .	32	49	81	52	11	63	2,965	1,676	4,641
	DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS									
	Mental Disorder .. .. .	4	3	7	1	1	2	231	140	371
300-326 353 N.O.S. 330-369	Epilepsy .. .. .	—	1	1	2	7	9	216	99	315
	Other Diseases of the Nervous and Sense Organ .. .. .	31	72	103	146	71	217	976	1,749	2,725
	DISEASES OF EYE AND EAR									
	Conjunctivitis and Ophthalmia .. .. .	44	47	91	200	111	311	17,861	15,447	33,308
	Stye .. .. .	20	19	39	48	20	68	866	526	1,392
370 373 389 N.O.S. 371-388 390-398	Blindness .. .. .	—	1	1	—	—	—	223	142	365
	Other Disease of Eye (not Trachoma) .. .. .	20	22	42	87	27	114	3,032	1,798	4,830
	Disease of Ear and Mastoid Process .. .. .	160	128	288	155	113	268	12,824	8,257	21,081
	CIRCULATORY DISEASES									
	Disease of the Heart. . . . .	16	5	21	3	1	4	222	173	395
400-447 450-468	Other Circulatory Diseases .. .. .	40	14	54	13	—	13	503	371	874



CODE	DISEASE	EUROPEAN			ASIAN		AFRICAN		
		Male	Female	Total	Male	Female	Male	Female	Total
490-493 N.O.S. 470-527	RESPIRATORY DISEASE								
	Pneumonia .. .. .	8	12	20	108	77	5,714	4,076	9,790
530-535 537 536-538	Other Diseases of the Respiratory System (in- cluding Coryza Pharyngitis and Bronchitis) ..	662	758	1,420	1,442	803	116,107	86,485	202,592
	ALIMENTARY DISEASES								
560-561, 570 571-0 571-1 N.O.S. 539-587	Dental Caries, other Disease of Teeth and Gums	18	14	32	82	42	10,898	8,220	19,118
	Glossitis .. .. .	1	1	2	—	—	1,413	1,893	3,306
613 N.O.S. 590-617	Stomatitis and other Diseases of the Buccal Cavity and Salivary Glands .. .. .	111	161	272	97	81	9,732	6,400	16,132
	Intestinal Obstruction and Hernia .. .. .	2	—	2	4	—	431	17	448
636 N.O.S. 620-637	Gastro-enteritis under 2 years .. .. .	47	28	75	117	72	11,820	16,031	27,851
	Gastro-enteritis over 2 years .. .. .	114	90	204	134	71	16,983	11,584	28,567
650-652 N.O.S. 640-689	Other Diseases of Alimentary System .. .. .	69	45	114	401	220	43,525	32,245	75,770
	GENITO-URINARY DISEASES								
690-698 715 N.O.S. 700-716 720-759	Hydrocele .. .. .	—	—	—	6	—	616	—	616
	Other Diseases of Genito-Urinary System and Male Genital Organs .. .. .	35	—	35	79	—	3,726	3	3,729
690-698 715 N.O.S. 700-716 720-759	Sterility (Female) .. .. .	—	—	—	—	—	1,195	2	1,197
	Other Diseases of Uterus and Female Genital Organs .. .. .	—	188	188	—	1	4,574	6	4,580
690-698 715 N.O.S. 700-716 720-759	Normal Pregnancy .. .. .	—	59	59	—	21	—	9,808	9,808
	Abortion .. .. .	—	2	2	—	2	—	3,039	3,039
690-698 715 N.O.S. 700-716 720-759	Other Disease of Childbirth .. .. .	—	33	33	—	—	—	208	208
	SKIN AND MUSCULO-SKELETAL DISEASES								
690-698 715 N.O.S. 700-716 720-759	Boils and Infections of Skin and Subcutaneous Tissues .. .. .	217	160	377	212	147	17,786	16,232	34,018
	Chronic Ulcers .. .. .	7	1	8	76	68	30,492	17,928	48,420
690-698 715 N.O.S. 700-716 720-759	Other Diseases of the Skin .. .. .	161	147	308	212	61	10,681	6,897	17,578
	Diseases of Bones, Joints, Muscles and Malforma- tion .. .. .	176	114	290	424	161	39,161	19,982	59,143



RETURN OF DISEASES—OUT-PATIENTS, 1955—(Contd.)

CODE	DISEASE	EUROPEAN			ASIAN		AFRICAN		
		Male	Female	Total	Male	Female	Male	Female	Total
	ILL-DEFINED DISEASES AND INJURIES								
760-776	Neonatal Diseases .. ..	—	48	48	—	—	5	6	11
788-8	Pyrexia of Unknown Origin .. ..	122	50	172	1,151	458	46,893	34,730	81,623
N.O.S.									
780-795	All other ill-defined causes of Morbidity	108	161	269	11	5	10,232	2,614	12,846
N.800-N.839	Fractures and Dislocations .. ..	10	11	21	68	18	3,351	1,562	4,913
N.840-N.848	Sprains .. ..	25	14	39	104	62	8,824	3,518	12,342
N.930-N.936	Foreign Bodies .. ..	4	4	8	64	10	3,261	1,607	4,868
N.940-N.949	Burns and Scalds .. ..	7	5	12	69	41	6,543	5,330	11,873
N.960-N.979	Poisoning .. ..	2	2	4	3	—	205	142	347
N.O.S.									
N.850-N.999	Other Injuries and Wounds .. ..	149	46	195	720	301	74,553	31,934	106,487
Y.00-Y.18	Examination .. ..	310	68	378	481	88	25,668	9,645	33,313
	TOTAL	2,943	2,580	5,823	7,432	3,781	733,759	568,928	1,202,687







RETURN OF DISEASES—IN-PATIENTS, 1955—(Contd.)

CODE	LIST NO.	DISEASES	EUROPEAN			ASIAN			AFRICAN										
			ADMISSION		Total Deaths	ADMISSION		Total Deaths	ADMISSION		Total Deaths								
			Male	Female		Total	Male		Female	Total		Male	Female	Total					
	A.	GENERAL INFECTIOUS AND DISEASES —(Contd.)																	
061	26	Tetanus .. .. .	—	—	—	4	2	6	—	—	—	260	154	414	159				
062	27	Anthrax .. .. .	—	—	—	—	—	—	—	—	—	146	125	271	12				
080	28	Acute Poliomyelitis .. .. .	22	5	27	6	5	11	—	—	—	124	87	211	14				
082	29	Acute Infectious Encephalitis .. .. .	3	—	3	2	1	3	—	—	—	14	13	27	8				
081, 083	30	Late Effects Poliomyelitis and Infectious Encephalitis .. .. .	1	—	1	9	3	12	—	—	—	32	29	61	4				
084	31	Variola Major .. .. .	—	—	—	—	—	—	—	—	—	38	12	50	—				
084	31	Variola Minor .. .. .	—	—	—	—	—	—	—	—	—	15	18	33	—				
085	32	Measles .. .. .	29	16	45	2	6	8	—	—	—	1,353	995	2,348	37				
091	33	Yellow Fever .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
092	34	Infectious Hepatitis .. .. .	1	—	1	3	2	5	—	—	—	131	93	224	26				
094	35	Rabies .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
100	36	Louse Borne Epidemic Typhus .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
101	36	Flea Borne Endemic Typhus .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
101	36	Flea Borne Endemic Typhus .. .. .	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
104	36	Tick Borne Typhus .. .. .	4	1	5	—	—	—	—	—	—	—	—	—	—	—			
N.O.S.																			
102-108	36	Other Rickettsial Diseases .. .. .	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—	—	—
110	37	B.T. Malaria .. .. .	—	—	—	—	—	—	—	—	—	42	28	70	13	—	—	—	—
111	37	Qt. Malaria .. .. .	3	—	3	—	—	—	—	—	—	114	72	186	2	—	—	—	—
112	37	S.T. Malaria .. .. .	32	8	40	25	9	34	—	—	—	2,630	2,124	4,754	152	—	—	—	—
115	37	Blackwater Fever .. .. .	2	—	2	—	—	—	—	—	—	10	—	10	1	—	—	—	—
N.O.S.																			
113-117	37	Other Forms of Malaria .. .. .	1	—	1	100	54	154	2	—	—	4,807	4,133	8,940	146	—	—	—	—
123-0	38	Schistosomiasis (Hæmatobium) .. .. .	—	—	—	3	5	8	—	—	—	1,018	372	1,390	4	—	—	—	—
123-1	38	Schistosomiasis (Mansoni) .. .. .	—	—	—	2	2	4	—	—	—	257	96	353	3	—	—	—	—
123-2	38	Schistosomiasis (Japonicum) .. .. .	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—	—	—
123-3	38	Other Unspecified Schistosomiasis .. .. .	—	—	—	2	—	2	—	—	—	52	37	89	—	—	—	—	—
125	39	Hydatid Disease .. .. .	—	—	—	—	—	—	—	—	—	84	30	114	3	—	—	—	—
127	40	Onchocerciasis .. .. .	—	—	—	—	—	—	—	—	—	2	2	4	—	—	—	—	—
127	40	Loiasis .. .. .	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—
127	40	Filariasis (Elephantiasis) .. .. .	—	—	—	—	—	—	—	—	—	46	13	59	2	—	—	—	—
127	40	Other Filariasis .. .. .	—	—	—	—	—	—	—	—	—	11	11	22	—	—	—	—	—
129	41	Ankylostomiasis .. .. .	—	—	—	2	1	3	—	—	—	514	461	975	6	—	—	—	—
126	42	Tapeworm and other Cestode Infestation .. .. .	—	—	3	—	—	2	—	—	—	633	420	1,053	—	—	—	—	—
130-0	42	Ascariasis .. .. .	3	—	—	6	5	11	—	—	—	267	315	582	3	—	—	—	—
130-3	42	Guinea-worm .. .. .	—	—	—	—	—	—	—	—	—	98	45	143	—	—	—	—	—



[illegible]



RETURN OF DISEASES—IN-PATIENTS, 1955—(Contd.)

36

CODE	LIST NO.	DISEASES	EUROPEAN			ASIAN			AFRICAN		
			ADMISSION		Total Deaths	ADMISSION		Total Deaths	ADMISSION		Total Deaths
			Male	Female	Total	Male	Female	Total	Male	Female	Total
161 162, 163	A. 49 50	NEW GROWTHS—(Contd.) Malignant Neoplasm of Larynx .. Malignant Neoplasm of Trachea, Bronchus and Lung, not Specified as Secondary .. .. .	—	—	—	—	—	—	3	—	2
			2	—	2	—	1	1	1	2	—
170 171 172-174	51 52 53	Malignant Neoplasm of Breast .. Malignant Neoplasm of Cervix Uteri .. Malignant Neoplasm of other Un-pecified Parts of Uterus ..	—	1	1	—	3	3	—	23	2
			—	—	—	—	3	3	—	61	1
177 190, 191 196, 197	54 55 56	Malignant Neoplasm of Prostate .. Malignant Neoplasm of Skin .. Malignant Neoplasm of Bone and Connected Tissue ..	—	—	—	—	7	7	—	42	6
			1	—	1	2	1	3	22	—	2
155 N.O.S. 156, 199	57 57	Malignant Neoplasm of Liver and Bile Passages (Primary) .. .. . Malignant Neoplasm of all other and Unspecified Sites .. .. .	—	—	—	1	2	3	33	18	9
			—	—	—	4	1	5	41	22	23
204 200-203, 205	58 59	Leukæmia and Aleukæmia .. .. . Lymphosarcoma and other Neoplasm of Lymphatic and Hæmatopoietic Systems .. .. .	—	1	1	—	—	—	91	84	29
			—	—	—	—	1	1	9	14	8
210-239	60	Benign Neoplasms and Unspecified Neoplasms .. .. .	—	—	—	4	1	5	30	27	6
			1	4	5	3	2	5	162	213	5
250, 251 252 260 280 281 282 286*6 283-286 290	61 62 63 64 64 64 64 64 65	ALLERGIC, METABOLIC AND BLOOD DISEASES Non-toxic Goitre .. .. . Thyrototoxicosis .. .. . Diabetes Mellitus .. .. . Beri-beri .. .. . Pellagra .. .. . Scurvy .. .. . Kwashiorkor .. .. . Other Deficiency States .. .. . Pernicious and other Hyperchromic Anæmias .. .. .	—	—	—	—	—	—	6	34	—
			1	2	3	3	4	3	—	4	—
			—	—	—	19	—	23	63	16	4
			—	—	—	1	—	1	—	1	—
			—	—	—	2	—	2	208	86	20
			—	—	—	—	—	—	11	9	2
			—	1	1	—	—	—	634	498	305
			—	—	—	—	—	—	219	188	46
			—	1	1	1	2	3	60	79	22



CODE	LIST NO.	DISEASES	EUROPEAN				ASIAN			AFRICAN					
			ADMISSION			Total Deaths	ADMISSION			Total Deaths	ADMISSION			Total Deaths	
			Male	Female	Total		Male	Female	Total		Male	Female	Total		
A. 291 292, 293 241 N.O.S. 240-299		ALLERGIC, METABOLIC AND BLOOD (DISEASES— <i>Contd.</i> )													
		Iron Deficiency Anæmias .. .. .	1	2	3	—	1	—	1	—	51	74	125	11	
		Other Anæmias .. .. .	—	—	—	—	27	33	60	2	237	267	504	47	
		Asthma .. .. .	1	1	2	—	14	9	23	1	365	179	544	6	
		Other Allergic, Endocrine, Metabolic and Blood Diseases .. .. .	4	2	6	—	10	2	12	1	117	22	139	12	
		DISEASES OF NERVOUS SYSTEM AND SENSE ORGANS													
		Psychoses .. .. .	1	1	2	—	3	—	3	—	70	36	106	3	
		Psychoneuroses and Disorders of Per- sonality .. .. .	—	—	—	—	—	—	—	2	65	56	121	—	
		Mental Deficiency .. .. .	—	—	—	—	2	1	3	—	151	89	240	—	
		Vascular Lesions Affecting Central Ner- vous System .. .. .	—	—	—	—	1	—	1	—	42	19	61	10	
300-309 310-324, 326  325 330-334  340-0 340-1 340-2  340		Meningitis due to H. Influenza .. .. .	—	—	—	—	—	—	16	11	27	9			
		Meningitis due to Pneumococcus .. .. .	1	—	1	—	—	1	—	169	121	290	113		
		Meningitis due to Other Organisms except Tuberculous and Syphilitic .. .. .	1	—	1	—	1	—	1	143	109	252	73		
		Meningitis (except Meningococcal and Tuberculous) .. .. .	—	—	—	—	7	6	13	—	98	41	139	53	
		Multiple Sclerosis .. .. .	—	—	—	—	—	—	—	—	5	—	5	—	
		Epilepsy .. .. .	—	—	—	—	2	—	2	—	125	58	183	8	
		Inflammatory Diseases of Eye .. .. .	—	—	—	—	4	5	9	—	661	493	1,154	—	
		Cataract .. .. .	—	—	—	—	21	8	29	—	163	85	248	—	
		Glaucoma .. .. .	—	—	—	—	2	2	4	—	25	4	29	—	
		Otitis Externa .. .. .	—	—	—	—	5	3	8	—	47	31	78	—	
391-383 394 N.O.S. 341-369, 395-398  N.O.S. 380-389		Otitis Media and Mastoiditis .. .. .	2	5	7	—	5	10	—	273	155	428	2		
		Other Inflammatory Diseases of Ear .. .. .	—	—	—	—	3	5	8	1	43	56	99	—	
		All other Diseases of Nervous System, Sense Organs and Auditory System .. .. .	2	—	2	—	11	4	15	2	180	81	261	24	
		All other Diseases and Conditions of Eye	3	—	3	—	9	3	12	—	389	292	681	—	



RETURN OF DISEASES—IN-PATIENTS, 1955—(Contd.)

CODE	LIST NO.	DISEASES	EUROPEAN				ASIAN				AFRICAN			
			ADMISSION			Total Deaths	ADMISSION			Total Deaths	ADMISSION			Total Deaths
			Male	Female	Total		Male	Female	Total		Male	Female	Total	
A. 400-401 402 410-416 420-422 430-434 440-443 444-447 450-456 460-468	79	CIRCULATORY DISEASES												
	79	Rheumatic Fever .. .. .	—	—	—	—	1	—	1	—	155	126	281	15
	80	Chorea .. .. .	—	—	—	—	—	—	—	—	3	10	13	—
	81	Chronic Rheumatic Heart Disease .. .. .	2	—	2	1	2	3	5	1	82	73	155	18
	82	Arteriosclerotic and Degenerative Heart Disease .. .. .	1	—	1	—	22	4	26	1	44	28	72	35
	83	Other Diseases of Heart .. .. .	—	2	2	—	9	4	13	1	162	86	248	69
	84	Hypertension with Heart Disease .. .. .	—	3	3	1	10	2	12	3	17	9	26	3
	85	Hypertension without Mention of Heart Diseases of Arteries .. .. .	2	1	3	—	9	4	13	1	15	7	22	3
	86	Other Diseases of Circulatory System .. .. .	6	2	8	—	2	—	2	—	15	8	23	3
							16	3	19	3	152	65	217	19
470-475 480-483 490 491 492, 493 500 501, 502 510 518, 521 519 523 N.O.S. 511-527	87	RESPIRATORY DISEASES												
	88	Acute Upper Respiratory Infections .. .. .	5	2	7	—	32	26	58	—	735	476	1,211	5
	89	Influenza .. .. .	8	3	11	—	3	4	7	—	287	257	544	1
	90	Lobar Pneumonia .. .. .	5	—	5	—	24	6	30	2	5,243	2,713	7,956	373
	91	Bronchopneumonia .. .. .	6	—	6	—	10	4	14	1	4,068	3,043	7,111	1,099
	92	Primary Atypical, other and Unspecified Pneumonia .. .. .	2	3	5	—	12	4	16	2	1,289	749	2,038	61
	93	Acute Bronchitis .. .. .	7	2	9	—	11	6	17	—	4,301	3,269	7,570	46
	94	Bronchitis, Chronic and Unqualified .. .. .	4	—	4	—	15	9	24	—	979	650	1,629	14
	95	Hypertrophy of Tonsils and Adenoids .. .. .	37	9	46	—	73	45	118	—	526	353	879	4
	96	Empyema and Abscess of Lung .. .. .	—	1	2	—	6	—	6	2	36	12	48	8
530 531-535 540 541 543 550-553	97	Pleurisy (other than Tuberculous) .. .. .	1	—	2	—	1	—	1	—	277	233	510	16
	97	Pneumoconiosis .. .. .	—	—	—	—	—	—	—	—	1	5	6	1
	97	All other Respiratory Diseases .. .. .	2	5	7	—	17	10	27	—	536	344	880	21
	98	ALIMENTARY DISEASES												
	98	Dental Caries .. .. .	—	5	5	—	11	4	15	—	121	73	194	1
	99	All other Diseases of Teeth and Supporting Structures .. .. .	—	—	—	—	4	—	4	—	120	90	210	—
	100	Ulcer of Stomach .. .. .	—	—	—	—	4	3	7	—	34	27	61	1
	101	Ulcer of Duodenum .. .. .	6	2	8	1	11	3	14	—	57	18	75	1
	102	Gastritis and Duodenitis .. .. .	3	1	4	—	10	—	10	—	327	224	551	3
		Appendicitis .. .. .	5	11	16	—	77	37	114	—	73	27	100	4



RETURN OF DISEASES—IN-PATIENTS, 1954—(Contd.)

CODE	LIST No.	DISEASES	EUROPEAN				ASIAN			AFRICAN		
			ADMISSION		Total Deaths	Total	ADMISSION		Total Deaths	ADMISSION		Total Deaths
			Male	Female			Male	Female		Male	Female	
560, 561, 570 571-0	A. 103 104	Intestinal Obstruction and Hernis .. Gastro-Enteritis and Colitis between Four Weeks and Two Years ..	4	2	—	6	51	8	—	657	97	71
571-1	104	Gastro-Enteritis and Colitis, Ages Two Years and Over	—	1	—	5	16	7	1	1,417	1,182	391
572	104	Chronic Enteritis and Ulcerative Colitis	27	3	—	30	9	4	1	1,325	1,099	175
581	105	Cirrhosis of Liver ..	—	—	—	—	6	1	—	68	113	1
584, 585	106	Cholelithiasis and Chole Cystitis ..	2	—	—	2	7	—	2	169	74	80
536-587	107	Other Diseases of Digestive System ..	11	3	—	14	9	4	—	9	6	—
							43	18	3	1,103	884	55
		GENITO-URINARY DISEASES										
590	108	Acute Nephritis ..	1	—	—	1	10	3	—	82	52	25
591-594	108	Chronic, other and Unspecified Nephritis	1	2	1	3	3	—	—	96	65	22
600	110	Infections of Kidney (other than Tuberculous) ..	1	1	—	2	13	1	—	57	86	2
602, 604	111	Calculi of Urinary System ..	3	—	—	3	9	2	—	15	1	—
610	112	Hyperplasia of Prostate ..	1	—	—	1	8	—	—	45	—	7
620, 621	113	Diseases of Breast (not Neoplastic) ..	—	—	—	—	—	5	—	—	218	—
613	114	Hydrocele ..	1	—	—	1	13	—	—	185	—	1
634	114	Disorders of Menstruation ..	—	—	—	—	—	65	—	—	575	—
N.O.S. 601-617	114	Other Diseases of Genito-Urinary System and Male Genital Organs	29	—	—	29	29	—	—	609	—	9
N.O.S. 622-637	114	Other Diseases of Uterus and Female Genital Organs ..	—	—	—	—	—	88	—	—	1,851	4
		DISEASES OF PREGNANCY PEURPERIUM										
640-641, 681, 682, 684	115	Sepsis of Pregnancy, Childbirth and the Puerperium ..	—	1	—	1	—	—	—	—	177	5
642, 652, 685, 686	116	Toxaemias of Pregnancy and the Puerperium ..	—	—	—	—	—	10	—	—	311	11
643, 644	117	Hæmorrhage of Pregnancy and Childbirth ..	—	2	—	2	—	14	—	—	429	16



### RETURN OF DISEASES—IN-PATIENTS, 1955—(Contd.)

CODE	LIST No.	DISEASES	EUROPEAN				ASIAN				AFRICAN				
			ADMISSION			Total Deaths	ADMISSION			Total Deaths	ADMISSION			Total Deaths	
			Male	Female	Total		Male	Female	Total		Male	Female	Total		
650 650 660 N.O.S. 645-689	A. 118 119 120 120	Abortion without Mention of Sepsis or Toxaemia Abortion with Sepsis Delivery without Complication Other Complications of Pregnancy, Childbirth and Puerperium	— — — —	— 4 30 27	— 4 30 27	— — — —	40 2 181 25	— — — —	40 2 181 25	— — — —	1,809 446 8,677 1,626	— — — —	1,809 446 9,677 1,626	2 3 — 114	
	690-698 720-725 726, 727 730 737, 745, 749	SKIN AND MUSCULO-SKELETAL DISEASES Infections of Skin and Subcutaneous Tissue Arthritis and Spondylitis Muscular Rheumatism and Rheumatism Unspecified Osteomyelitis and Periostitis Ankylosis and Acquired Musculo-skeletal Deformities	20 6 4 — 3 2 6	5 2 — — — — 3	25 8 4 — 3 2 9	— — — — — — —	14 4 11 3 3 18 15	2 1 3 — 2 1 6	16 5 14 3 5 19 21	— — — — — — —	1,736 502 661 339 64 2,086 883	890 210 465 125 21 1,446 487	2,626 712 1,126 464 85 3,532 1,370	5 — 2 11 — 3 —	
		715 700-714, 716 731/736, 738-744 751 754 N.O.S. 750-759	All other Diseases of Musculo-skeletal System Spina Bifida and Meningocele Congenital Malformations of Circulatory System Other Congenital Malformations	7 1 — —	5 — — —	12 1 — —	— — — —	3 — 2 9	1 — — 2	4 — 2 11	— — — —	397 52 5 67	172 22 5 35	569 74 10 102	2 8 2 12
			760-761 762 764 765 763, 766-768 770	DISEASES OF NEWBORN Birth Injuries Post-natal Asphyxia and Atelectasis Diarrhoea of Newborn (under Four Weeks) Ophthalmia Neonatorum Other Infections of Newborn Haemolytic Disease of Newborn	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —	— — — — — — —	4 — 18 15 19 1	20 4 9 3 6 3	24 4 27 18 25 4



CODE	LIST No.	DISEASES	EUROPEAN				ASIAN			AFRICAN		
			ADMISSION		Total Deaths	Total Deaths	ADMISSION		Total Deaths	ADMISSION		Total Deaths
			Male	Female			Male	Female		Male	Female	
A. 769, 771, 772 773, 776	134 135	All other Defined Diseases of Early Infancy .. .. . Ill-Defined Diseases Peculiar to Early Infancy and Immaturity, Unqualified	—	—	—	—	—	—	—	13	5	18 7
			—	—	—	—	2	1	3	23	18	41 19
794 788·8 793	136 137 137	ILL-DEFINED DISEASES  Senility without Mention of Psychosis Pyrexia of Unknown Origin .. .. Observation without Need for Further Medical Care .. .. .	— 37	— 10	— 47	—	1 20	— 10	1 30	22 839	11 662	33 1,501 16 50
N.O.S. 780-795	137	All other Ill-defined Causes of Morbidity	14 18	8 14	22 32	—	28 1	7 —	35 1	574 1,234	244 3,178	818 4,412 6 32
												41
N.800-N.804 N.805-N.809 N.810-N.829 N.830-N.839 N.840-N.848	A.N. 138 139 140 141 142	INJURIES  Fracture of Skull .. .. . Fracture of Spine and Trunk .. .. Fracture of Limbs .. .. . Dislocation without Fracture .. .. Sprains and Strains of Joints and Ad- jacent Muscle .. .. .	— 2 2	— — —	— 2 2	—	10 8 112	3 1 7	13 9 119	211 145 2,496	35 47 781	246 192 3,277 — — —
N.850-N.856 N.860-N.869	143 144	Head Injury (excluding Fracture) .. Internal Injury of Chest, Abdomen and Pelvis .. .. .	4 1	— —	4 1	—	9 24	— 1	9 25	405 447	138 130	543 577 — 18
N.870-N.908 N.910-N.929	145 146	Laceration and Open Wounds .. .. Superficial Injury, Contusion and Crush- ing with Intact Skin Surface .. ..	— 6	— —	— 6	—	16 139	3 26	19 165	155 4,367	49 1,243	204 5,610 13 51
N.930-N.936	147	Effects of Foreign Body Entering through Orifice .. .. .	2	—	2	—	13	6	19	1,399	630	2,029 —
N.940-N.949 N.960-N.979 N.950-N.959 N.980-N.999	148 149 150	Burns .. .. . Effects of Poisons .. .. . All other and Unspecified Effects of External Causes .. .. .	— 1 —	— — —	— 1 —	—	6 22 2	— 7 6	6 29 8	202 981 183	110 686 113	312 1,667 296 3 149 11 6
		TOTAL .. .. .	485	243	728	6	1,633	1,045	2,678	76,943	67,188	144,131 6,257



RETURN OF ACCIDENTS (COMBINED) IN- AND OUT-PATIENTS, 1955

CODE	LIST	ACCIDENTS	EUROPEAN		ASIAN		AFRICAN	
			Cases	Deaths	Cases	Deaths	Cases	Deaths
E.810-E.835	AE.138	Motor vehicle accidents .. .. .	43	—	81	5	1,181	44
E.800-E.802	AE.139	Other transport accidents .. .. .	1	—	21	—	1,425	5
E.840-E.866	AE.140	Accidental poisoning .. .. .	—	—	1	—	3,607	11
E.870-E.895	AE.141	Accidental falls .. .. .	60	—	40	1	732	2
E.900-E.904	AE.142	Accident caused by machinery .. .. .	10	—	9	—	2,998	80
E.912	AE.143	Accident caused by fire and explosion of combustible material .. .. .	—	—	4	—	1,098	11
E.916	AE.144	Accident caused by hot substance, corrosive liquid, steam and radiation .. .. .	14	—	23	1	197	10
E.917, E.918	AE.145	Accident caused by firearm .. .. .	—	—	3	—	16	2
E.919	AE.146	Accidental drowning and submersion .. .. .	—	—	4	—	1,322	—
E.929	AE.147	Foreign body entering eye and adnexa .. .. .	12	—	7	—	814	—
E.920	AE.147	Foreign body entering other orifice .. .. .	6	—	—	—	595	1
E.923	AE.147	Accidents caused by bites and stings of venomous animals and insects .. .. .	42	—	6	—	392	3
E.927	AE.147	Other accidents caused by animals .. .. .	1	—	—	—	20,518	22
E.928	AE.147							
N.O.S.								
E.910-E.979	AE.148	All other accidental causes .. .. .	59	—	61	1	1,403	84
E.980-E.985	AE.149	Homicide and injury purposely inflicted by other persons (not in war) .. .. .	12	—	26	—	6	—
E.990-E.999	AE.150	Injury resulting from operations of war .. .. .	—	—	—	—	—	—
		TOTAL .. .. .	260	—	286	8	36,304	275







